

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

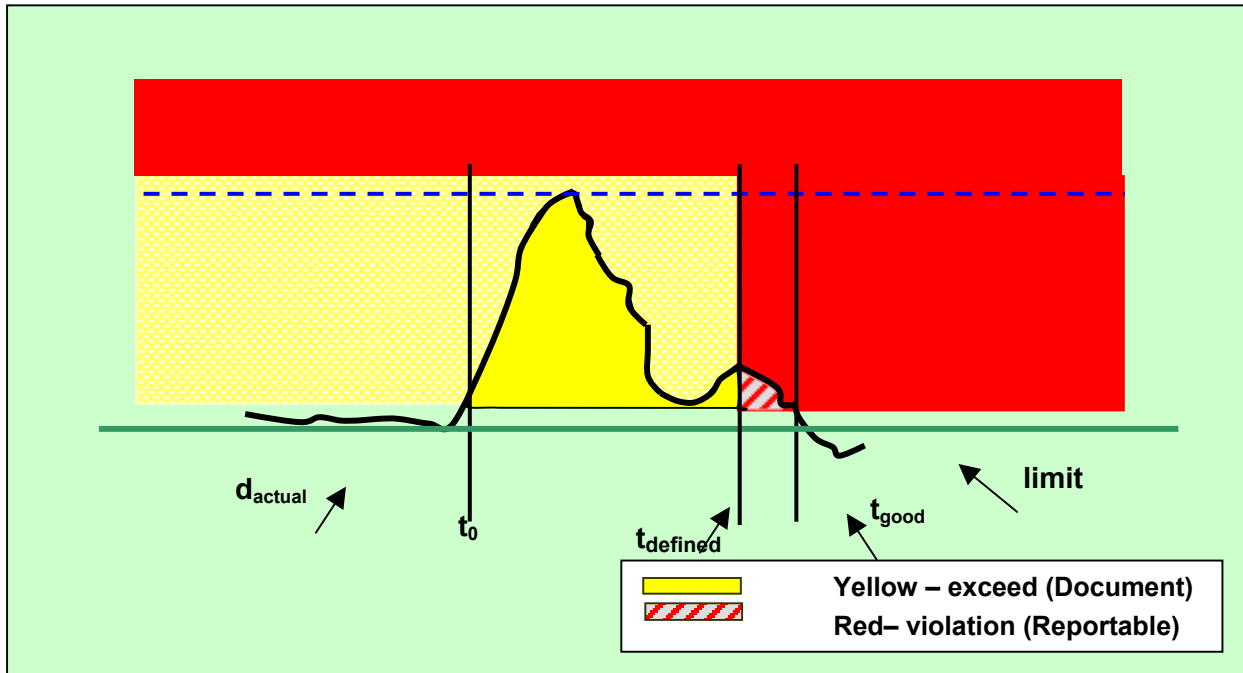
Do you agree?

Yes

No

Comments:

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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

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Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: As a Generator I may not be aware of all the differences that could occur in various regional interconnections

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: As a Generator, I may not be aware of all requirements that promote grid reliability

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: Version A is streamline and forthright, but version B lays out the requirements in such fashion that an auditee should know what the documentation requirements are and have agreement with an auditor when a finding of non-compliance is reported

47. If you have comments on the format of the standard, please share them with us.

Comments:

-----Original Message-----

From: Gladish, Lee [mailto:L.Gladish@cwlp.com]

Sent: Monday, March 10, 2003 10:31 AM

To: Tim Gallagher

Subject: Standard Comment-Operate Within Transmission Limits

I have a comment on the very first page of the Draft Standard in 201 (a) Requirement.

The present text requires monitoring limits against real time data. I believe the thought is stated in reverse. What should be monitored is the real time data, against limits. My rationale is that limits are typically static, and don't require "monitoring". Real time data is dynamic and is what needs monitoring against operating limits which typically are fixed.

The same concept also appears in the first indented item under 201(a).

Thanks for the opportunity to comment.

Lee A. Gladish,

Springfield, Ill. CWLP TDU Segment

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

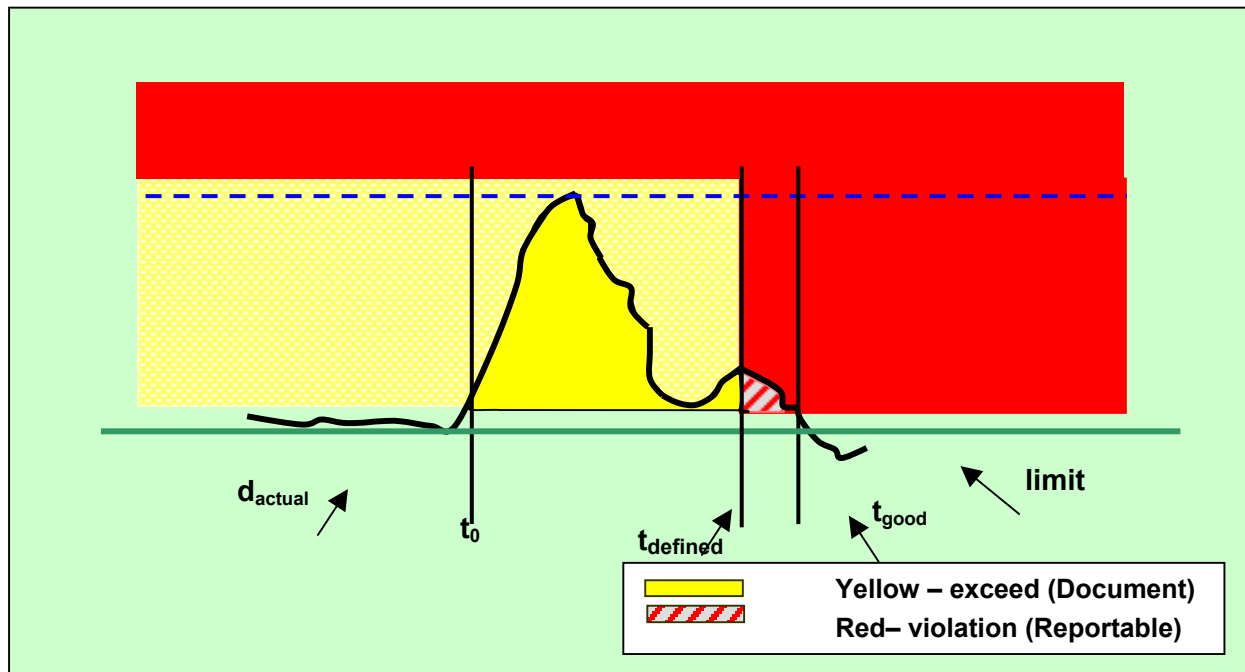
Yes

No

Comments: This is an area of concern for many. In the past there was an IEEE standard interchange format to share power flow data. Recently there have been numerous upgrades in

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power flow modeling programs and their associated data structures. Unfortunately the IEEE standard format has not kept pace. At the other extreme are program developers that insist on changing data structures on nearly a regular basis to provide program "enhancements". This creates conversion problems for those using older or different power flow programs. A standard data interchange data model needs to be developed to allow free interchanging of model data between different programs. The structure would only be changed though committee agreement. If this cannot be achieved, program developers should be required to provide data structure information and make it available to any party upon request. The data structure should also allow programs to be backward compatible. That is a newer program should always be able to read an older data format and perform satisfactorily.



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

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Yes

No

Comments:

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: At what point does telemetered data being unavailable constitute non-compliance (1 second, 1minute, 1 hour, etc.)?

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: At what point does telemetered data being unavailable constitute non-compliance (1 second, 1minute, 1 hour, etc.)?

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: The RA should utilize existing data models whenever available. Collection of data should be coordinated with other data model building efforts to minimize duplication of efforts.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

¹ Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Mike Miller
Organization	Southern Company
Industry Segment #	1
Telephone	205 257 7755
E-mail	mbmiller@southernco.com

Key to Industry Segment #'s:
1 – Trans. Owners
2 – RTO's, ISO's, RRC's
3 – LSE's
4 – TDU's
5 - Generators
6 - Brokers, Aggregators, and Marketers
7 - Large Electricity End Users
8 - Small Electricity Users
9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

X Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

X Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

X Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

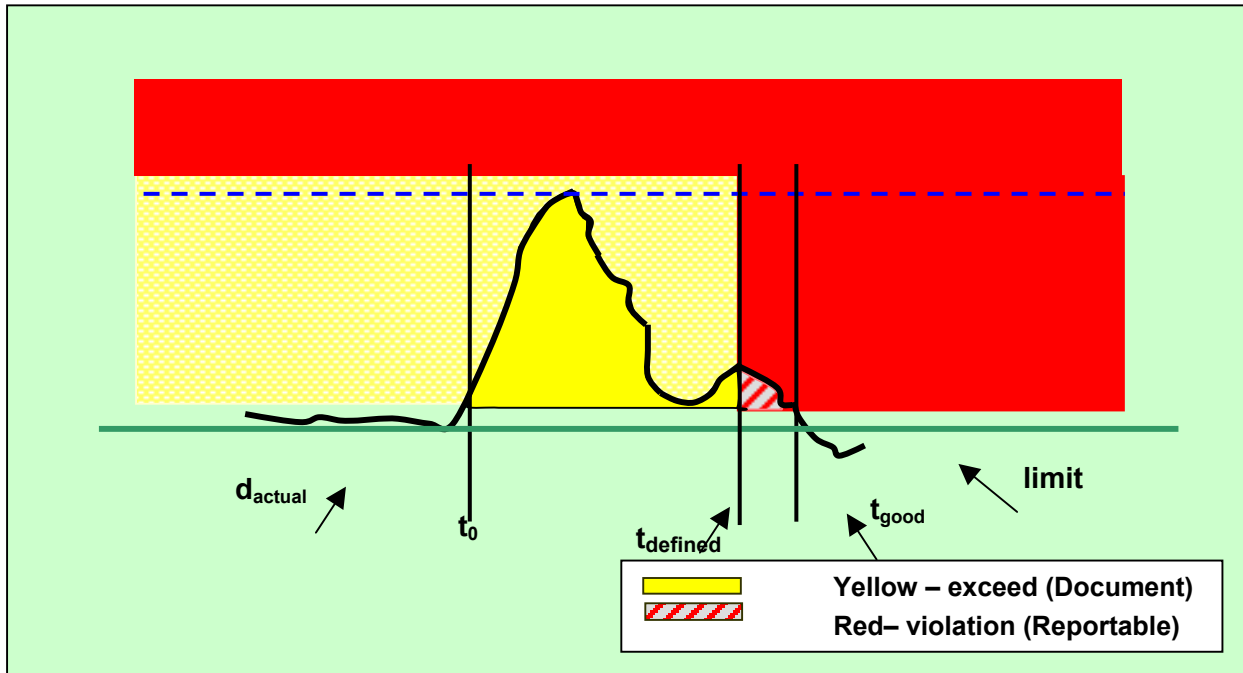
Do you agree?

X Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: Operating outside thermal, voltage, or stability criteria that is defined by OSL, but operating such that instability, uncontrolled separation, or cascading outages will not occur to more than localized area as a result of most severe contingency is a non-reportable OSLV.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Non-Reportable Operating Security Limit Violation

Reportable Operating Security Limit Violation

If possible, please provide us with a definition for each of these terms.

- **NON-REPORTABLE OPERATING SECURITY LIMIT VIOLATION** - Operating outside the thermal, voltage, or stability criteria that defines the OPERATING SECURITY LIMIT, but operating so that instability, uncontrolled separation, or cascading outages will not occur to more than a localized area as a result of the most severe single contingency.
- **REPORTABLE OPERATING SECURITY LIMIT VIOLATION** - Operating outside the thermal, voltage, or stability criteria that defines the OPERATING SECURITY LIMIT, in a manner such that instability, uncontrolled separation, or cascading outages could occur to a widespread area as a result of the most severe single contingency.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: The operating limits should be associated with the ratings, or both should be defined for clarification.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Are Operating limits the same as ratings?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: coordination should be required so that TOP or RA doesn't fall out of step

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Energization is testing or commercial date, needs definition.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Define energization

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Documentation included for Non-reportable as well as Reportable OSLV required

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: Previous comments

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Kathleen M. Goodman
Organization	ISO New England Inc.
Industry Segment #	2
Telephone	(413) 535-4111
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Key to Industry Segment #'s:
1 – Trans. Owners
2 – RTO's, ISO's, RRC's
3 – LSE's
4 – TDU's
5 - Generators
6 - Brokers, Aggregators, and Marketers
7 - Large Electricity End Users
8 - Small Electricity Users
9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: Need to further define what real data means.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: This definition is too vague. Please elaborate to ensure that compliance is achieved. Please give specific examples

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: Why is it necessary to make sure that updates are provided for? The RA/TOP certification process should be enough to ensure that the entity is performing the functions including updates. To add this requirement adds a layer of compliance which is redundant and not required.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

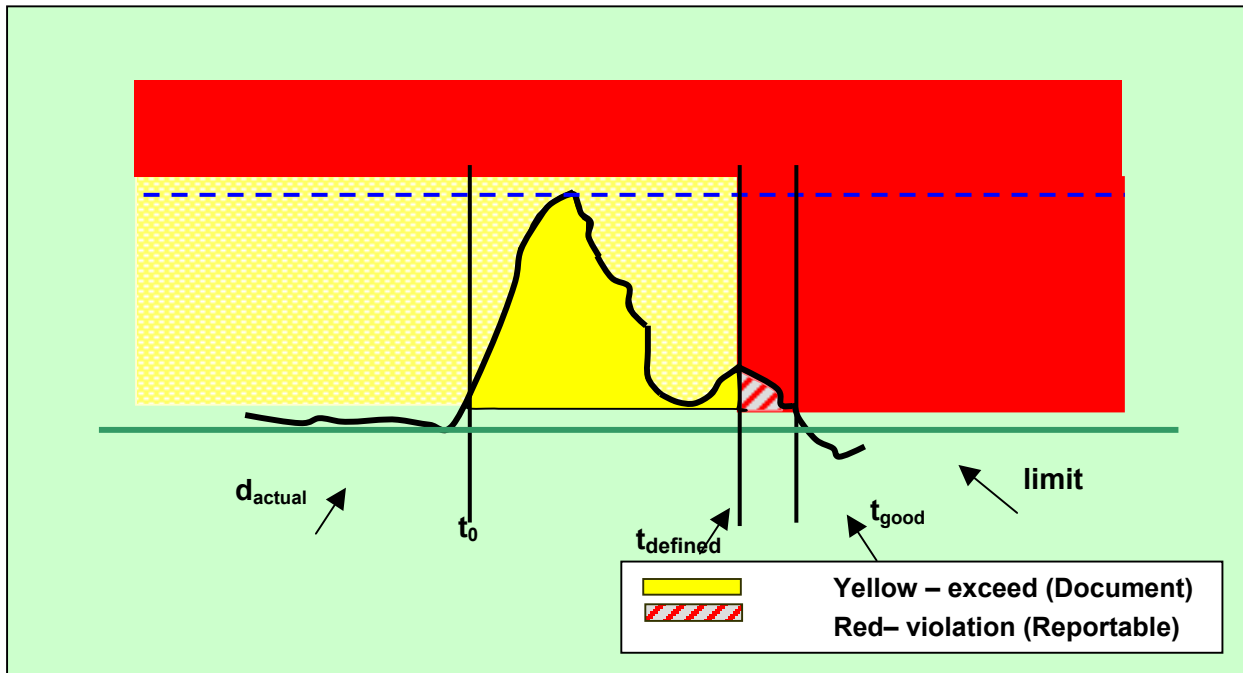
Do you agree?

Yes

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

No

Comments: Each RA/TOP should use whatever format that is acceptable to its constituencies.



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Generator Owner

"real" data

real-time

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: ISO New England does not believe that we should identify specific limits which must be reported on. Rather, we advocate internally reporting on every violation which does not clear within 30 minutes (as defined in NERC policy). Subsequently, each reported violation will be studied/examined to see if it would have caused instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk power transmission system (have an Inter-Area impact outside of the New England Area following next contingency). If so, ISO New England would report this "OSL violation" to NPCC and NERC within 72 hours. If there would not have been an Inter-Area impact (i.e. the impact would have been localized within the offending Control Area's boundary), no external reporting will occur. We suggests this approach be adopted.

By restricting reporting to pre-identified limits, NERC may not be getting the information they seek through this Standard. Only through a post-operational assessment, can a true analysis (with the correct system configuration) be performed and an adequate judgement be made on the potential impact to the bulk power system.

We also believe that data should not be archived unless the limit is not cleared within 30 minutes. We do not advocate archiving data for every limit violation if it cleared in less than 30 minutes.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: This non-compliance matrix is completely inappropriate and ineffective. What is the scope of the telemetering unavailability required to achieve these levels of non-compliance? Is the goal here to achieve compliance with reliability standards or measure the amount of redundant telemetering equipment? It is clearly possible to maintain reliability absent some telemetering as long as an effective State Estimator is in use. Additionally, how much telemetering must be unavailable in order to be non-compliant: One point, five points, 5,000 points, etc.? Compliance should be measured against how many violations that an area had which were not cleared over a specified period of time. Only the RA should make the determination of how much telemetering is enough to have effective limit management.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: This standard should recognize that the RA, CA and TOP functions may all be performed at one location with primary responsibility enforced at the RA.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: This non-compliance matrix is completely inappropriate and ineffective. What is the scope of the telemetering unavailability required to achieve these levels of non-compliance? Is the goal here to achieve compliance with reliability standards or measure the amount of redundant telemetering equipment? It is clearly possible to maintain reliability absent some telemetering as long as an effective State Estimator is in use. Additionally, how much telemetering must be unavailable in order to be non-compliant: One point, five points, 5,000 points, etc.? Compliance should be measured against how many violations that an area had which were not cleared over a specified period of time. Only the RA should make the determination of how much telemetering is enough to have effective limit management.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: In general we agree with the requirement. However, it is up to the RA when and how the data will be collected and determined to be reliable. The primary issue we have with this requirement is the need to maintain a record of requested data and an identification of data not delivered.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

¹ Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

No

Comments: See above.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: Same comments as 14 and 15

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Same comments as 14 and 15

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Seven days advanced notice may not be feasible for updates to real-time (EMS) systems due to the impact to operations during 'cut-over' activities. The time-frame requirement may vary widely depending on database requirements, support staffing, impact to real-time operations, etc. We believe the timing should be left to the RAs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: Seven days advanced notice may not be feasible for updates to real-time (EMS) systems due to the impact to operations during 'cut-over' activities. The time-frame requirement may vary widely depending on database requirements, support staffing, impact to real-time operations, etc. We believe the timing should be left to the RAs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: Seven days advanced notice may not be feasible for updates to real-time (EMS) systems due to the impact to operations during 'cut-over' activities. The time-frame requirement may vary widely depending on database requirements, support staffing, impact to real-time operations, etc. We believe the timing should be left to the RAs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: Seven days advanced notice may not be feasible for updates to real-time (EMS) systems due to the impact to operations during 'cut-over' activities. The time-frame requirement may vary widely depending on database requirements, support staffing, impact to real-time operations, etc. We believe the timing should be left to the RAs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: The term Generator Owner has not been defined anywhere. There may be cases where, depending upon the Agreements in-place, that the actual owner of a generator is not responsible for providing anything but, rather, a third party performs this function on their behalf.

Seven days advanced notice may not be feasible for updates to real-time (EMS) systems due to the impact to operations during 'cut-over' activities. The time-frame requirement may vary widely depending on database requirements, support staffing, impact to real-time operations, etc. We believe the timing should be left to the RAs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: This needs clarification. Who is requesting that these programs be run? What type of programs? If there is no request, and nothing is done to study a potential reliability problem, is there non-compliance?

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: From the information the writer has provided we would suggest that the level of non compliance be based on findings that the system was found to be in an operating state that could have resulted in "instability, uncontrolled separation etc" due to the fact that an effective reliability analysis was not done, that would have identified the condition.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: This needs clarification. Who is requesting that these programs be run? What type of programs? If there is no request, and nothing is done to study a potential reliability problem, is there non-compliance?

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: From the information the writer has provided we would suggest that the level of non compliance should be based on findings that the system was found to be in an operating state that could have resulted in "instability, uncontrolled separation etc" due to the fact that an effective reliability analysis was not done, that would have identified the condition.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels two and three appear to be identical.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels two and three appear to be identical.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: ISO New England does not believe that we should identify specific limits which must be reported on. Rather, we advocate internally reporting on every violation which does not clear within 30 minutes (as defined in NERC policy). Subsequently, each reported violation will be studied/examined to see if it would have caused instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk power transmission system (have an Inter-Area impact following next contingency). If so, ISO New England would report this "OSL violation" to NPCC and NERC with 72 hours. If there would not have been an Inter-Area impact (i.e. the impact would have been localized within the offending Control Area's boundary), no external reporting will occur. We suggest this approach be adopted.

By restricting reporting to pre-identified limits, NERC may not be getting the information they seek through this Standard. Only through a post-operational assessment, can a true analysis (with the correct system configuration) be performed and an adequate judgement be made on the potential impact to the bulk power system.

We also believe that data should not be archived unless the limit is not cleared within 30 minutes. We do not advocate archiving data for every limit violation regardless of the time in which this was cleared.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

- 2. Not Applicable
- 3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
- 4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: ISO New England does not believe that we should identify specific limits which must be reported on. Rather, we advocate internally reporting on every violation which does not clear within 30 minutes (as defined in NERC policy). Subsequently, each reported violation will be studied/examined to see if it would have caused instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk power transmission system (have an Inter-Area impact following next contingency). If so, ISO New England would report this "OSL violation" to NPCC and NERC with 72 hours. If there would not have been an Inter-Area impact (i.e. the impact would have been localized within the offending Control Area's boundary), no external reporting will occur. We suggest this approach be adopted.

By restricting reporting to pre-identified limits, NERC may not be getting the information they seek through this Standard. Only through a post-operational assessment, can a true analysis (with the correct system configuration) be performed and an adequate judgement be made on the potential impact to the bulk power system.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: In the current format of the existing draft SARs, it appears as though two very fundamental reliability requirements may be lost: (1) a Reserve Requirement; and (2) a CPS2-like requirement (a standard which accounts for ACE variations in addition to frequency control).

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments: Additional comments: ISO New England, nor NPCC members, subscribe to the use of monetary penalties to enforce compliance and we (ISO New England) in no way are a party to any contracts which allows NERC to do so.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)

Name Kim Warren (Roger Farrugia, Pete Henderson)

Organization IMO

Industry Segment # 2

Telephone 905-855-6160

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Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

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STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes
 No

Comments:

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

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Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

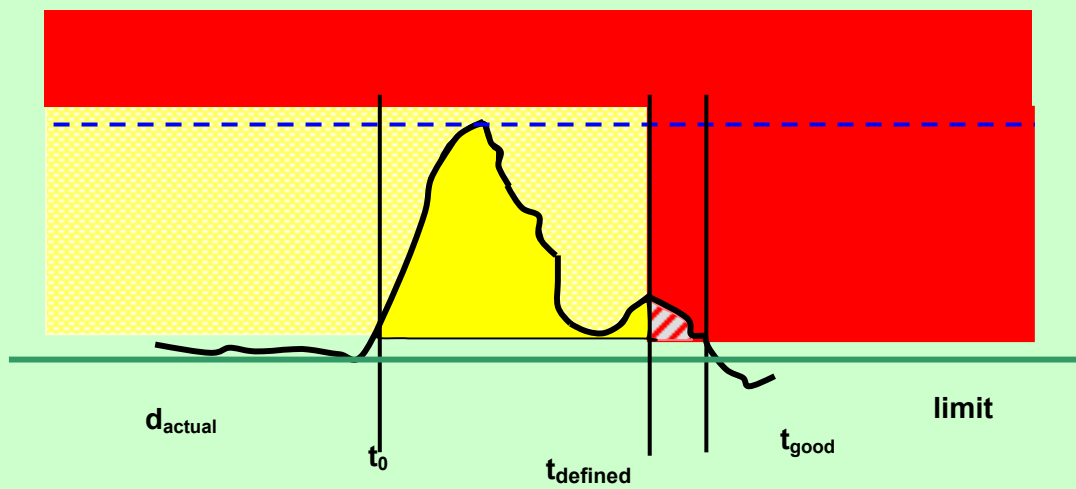
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

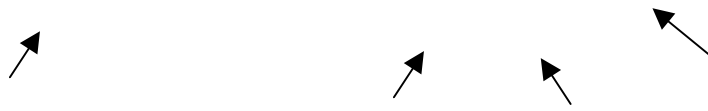
Yes

No

Comments:



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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Local Areas

Reliability Authority Area

Wide Area

If possible, please provide us with a definition for each of these terms.

Clearly differentiate between electrical areas that can cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system and those areas that don't (Local Areas).

Reliability Authority Area consists of one or more Control Areas for which a single Reliability Authority is responsible.

A Wide Area impact is one that goes beyond the Reliability Authority Area.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Loss of a few telemetered quantities does not constitute an inability of the RA to perform his "monitoring "(and analysis) functions if the State Estimator remains functional. (In fact State estimated quantities are deemed to be often more accurate than telemetered quantities .) Reporting of loss of actual telemetry should only be required when the RA can no longer perform these functions. Furthermore, reporting each actual telemetry loss will create too much overhead for the RA, the Regions and/or NERC.

For a loss of the RA's "monitoring function", a minimum time standard should be built into this compliance issue similar to "Exceeding an Operating Limit but Not a Reportable Violation" (question 5 & 6). There should be a time allowance for short term failures (i.e. < 30 minutes) of failure before reporting is required.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Yes ,only if it is recognized that in some jurisdictions, the TOP may be the same entity as the RA but does not necessarily perform all of the roles(eg. switching,maintenance,outage & construction notification) that the Functional Model defines for the TOP.

Where the RA and the TOP are different, there needs to be a clear distinction of which system limits each are accountable for. This document should be reworked to be consistent with the recently issued OLD TF report.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Loss of a few telemetered quantities does not constitute an inability of the TOP to perform his "monitoring "(and analysis) functions if the State Estimator remains functional. (In fact State estimated quantities are deemed to be often more accurate than telemetered quantities .) Reporting of loss of actual telemetry should only be required when the TOP can no longer perform these functions. Furthermore, reporting each actual telemetry loss will create too much overhead for the TOP, the Regions and/or NERC.

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For a loss of the TOPs "monitoring function", a minimum time standard should be built into this compliance issue similar to "Exceeding an Operating Limit but Not a Reportable Violation" (question 5 & 6). There should be a time allowance for short term failures (i.e. < 30 minutes) of failure before reporting is required.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: The data needs to be defined before we can say yes. It could well be that the requested data is not readily available in the EMS or telemetered and may take much longer and could be costly if the providing RA did not feel it was important for his own purposes.

See also comments in questions 20, 22, 24 and 26. To meet this requirement the RA needs the data sooner (say in 10 days).

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The data needs to be defined before we can say yes. It could well be that the requested data is not readily available in the EMS or telemetered and may take much longer and could be costly if the providing RA did not feel it was important for his own purposes.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: Requirement "5" states that the RA has to notify other associated RA's and TOP's no less than 7 days prior to energization of new/changed facilities. If the Balancing Authority has the same time line requirement and gives the minimum notice (7 days) this does not allow time for the RA to complete their requirements of passing on the information to the associated RA's and TOP's. Therefore I suggest increasing the Transmission Operating Authority time line to 10 days.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: Requirement "5" states that the RA has to notify other associated RA's and TOP's no less than 7 days prior to energization of new/changed facilities. If the Interchange Authority has the same time line requirement and gives the minimum notice (7 days) this does not allow time for the RA to complete their requirements of passing on the information to the associated RA's and TOP's. Therefore I suggest increasing the Interchange Authority time line to 10 days.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

- Yes
 No

Comments: Requirement "5" states that the RA has to notify other associated RA's and TOP's no less than 7 days prior to energization of new/changed facilities. If the Transmission Owner has the same time line requirement and gives the minimum notice (7 days) this does not allow time for the RA to complete their requirements of passing on the information to the associated RA's and TOP's. Therefore I suggest increasing the Transmission Owners time line to 10 days.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Requirement "5" states that the RA has to notify other associated RA's and TOP's no less than 7 days prior to energization of new/changed facilities. If the Generator Owner has the same time line requirement and gives the minimum notice (7 days) this does not allow time for the RA to complete their requirements of passing on the information to the associated RA's and TOP's. Therefore I suggest increasing the Generator Owners time line to 10 days.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: A minimum time standard should be built into this compliance issue similar to "Exceeding an Operating Limit but Not a Reportable Violation" (question 5 & 6). There should be a time allowance for short term failures (i.e. < 30 minutes) of the run of reliability analysis programs, under normal system conditions, before reporting is required.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: Yes ,only if it is recognized that in some jurisdictions, the TOP may be the same entity as the RA but does not necessarily perform all of the roles(eg. switching,maintenance,outage & construction notification) that the Functional Model defines for the TOP.

Where the RA and the TOP are different, there needs to be a clear distinction of which system limits each are accountable for. This document should be reworked to be consistent with the recently issued OLD TF report.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: A minimum time standard should be built into this compliance issue similar to "Exceeding an Operating Limit but Not a Reportable Violation" (question 5 & 6). There should be a time allowance for short term failures (i.e. < 30 minutes) of the run of reliability analysis programs, under normal system conditions, before reporting is required.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: A more descriptive or clearer definition is required to differentiate between level 2 and level 3.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: Yes ,only if it is recognized that in some jurisdictions, the TOP may be the same entity as the RA but does not necessarily perform all of the roles(eg. switching,maintenance,outage & construction notification) that the Functional Model defines for the TOP.

Where the RA and the TOP are different, there needs to be a clear distinction of which system limits each are accountable for. This document should be reworked to be consistent with the recently issued OLD TF report.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: A more descriptive or clearer definition is required to differentiate between level 2 and level 3.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Yes ,only if it is recognized that in some jurisdictions, the TOP may be the same entity as the RA but does not necessarily perform all of the roles(eg. switching,maintenance,outage & construction notification) that the Functional Model defines for the TOP.

Where the RA and the TOP are different, there needs to be a clear distinction of which system limits each are accountable for. This document should be reworked to be consistent with the recently issued OLD TF report.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: Clarify the distinction between "document" and "log". I would think that logging is sufficient.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: Is logging not sufficient? Whats the distinction between "document" & "log"?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: Understanding that different companies have different operational setups and duties/requirements can sometimes cross boundry lines between different authorities (i.e. RA/TOP/TOW). In some case the RA and the TOP perform the same functions as defined in this SAR but that entity may not perform other duties such as switching, maintenance or notification of outages or construction plans which are also described as roles that the TOP is accountable for in the Functional Model.

In other case, some duties as defined in the SAR process may be duplicated or shared or the accountabilites for which limits may need to be clarified.

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: Local Areas

If yes, please identify what you feel should be added.

Clearly differentiate between electrical areas that can cause instability, uncontrolled seperation or cascading outages that advesely impact the reliability of the bulk transmission system and those areas that don't (Local Areas).

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: I prefer that the Standard have all RA requirements/information together. Same for TOP's, TOW's, BA's, IA's and Generator Owners. In other words a different section of the standard for each of the different authorities/owners where all their requirements are stated in one place.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

47. If you have comments on the format of the standard, please share them with us.

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	
Organization	
Industry Segment #	
Telephone	
E-mail	

<p>Key to Industry Segment #'s:</p> <p>1 – Trans. Owners 2 – RTO's, ISO's, RRC's 3 – LSE's 4 – TDU's 5 - Generators 6 - Brokers, Aggregators, and Marketers 7 - Large Electricity End Users 8 - Small Electricity Users 9 - Federal, State, and Provincial Regulatory or other Govt. Entities</p>
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STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: <i>Southern Company Generation & Energy Marketing</i>		Group Chair: Roman Carter Chair Phone: 205.257.6027 Chair Email: jrcafter@southernco.com
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Roman Carter</i>	<i>SCGEM</i>	<i>3,5,6</i>
<i>Joel Dison</i>	<i>SCGEM</i>	<i>3,5,6</i>
<i>Tony Reed</i>	<i>SCGEM</i>	<i>3,5,6</i>
<i>Lucius Burris</i>	<i>SCGEM</i>	<i>3,5,6</i>
<i>Jeff Weathers</i>	<i>SCGEM</i>	<i>3,5,6</i>
<i>Clifford Shepard</i>	<i>SCGEM</i>	<i>3,5,6</i>

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: It is recommended that “data” mean something specific vs. a “very general” reference to items. Being more specific would provide for us to give a more definitive answer on whether we agree or not.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: See answer to question #1.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: See answer to question #1.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

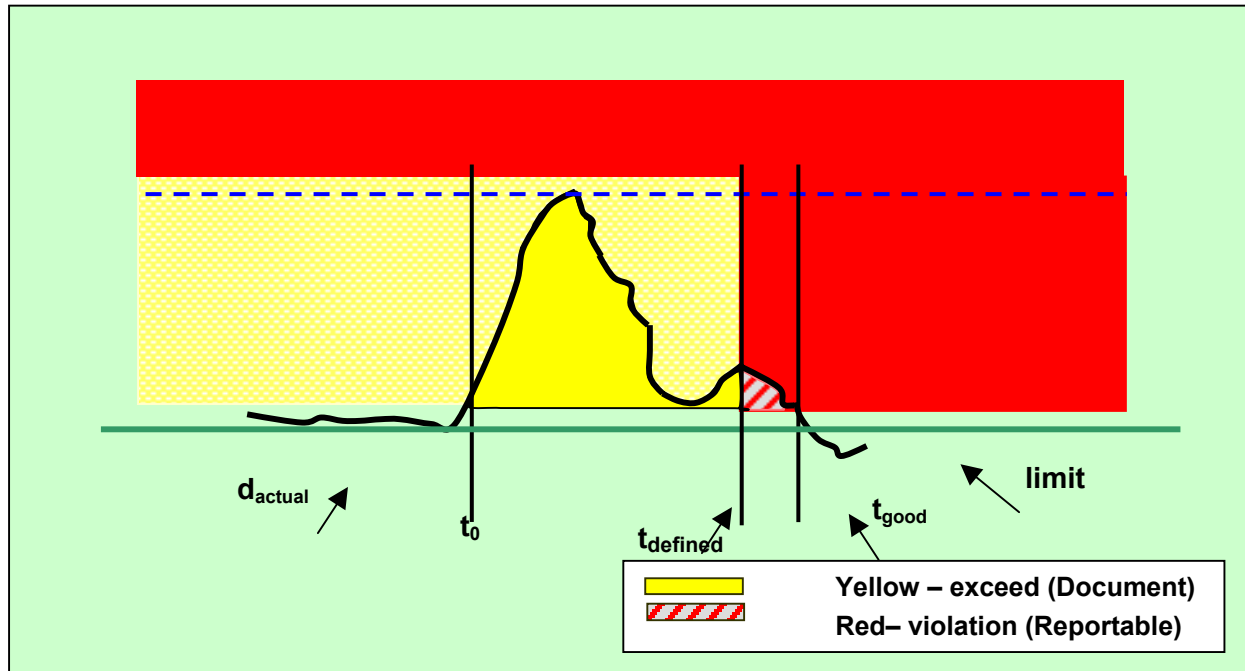
Do you agree?

Yes

No

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Comments: See answer to question #1.



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels of non-compliance should not be determined by the availability of data. It should be based more on the RA's capability to monitor System Operating Limits and whether they took appropriate action to resolve issues preventing the RA from doing the monitoring.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See answer to question # 11.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Is there a standard or requirement for the TOP, BA, or IA to provide this data to

¹ Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

the RA so that the RA is not captive. There needs to be some compliance requirement on those entities to provide the data (Maybe a criteria requirement in the certification SARs).

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: However, my comments to question #15 applies here also.

² Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: A 7 day lead time is not adequate. It would be better for coordination to require no less than 1 month lead time.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: More lead time should be required such as 1 month.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: More time such as 1 month should be considered.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: Again, more time such as 1 month is more appropriate.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: More time such as 1 month is more appropriate.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: Agree with the requirement, but there is insufficient information on the analysis and how often it would be performed.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We agree with the form of non-compliance but without complete knowledge of how often the studies will be performed, we're not sure that the timeframes are adequate or not.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: However we have the same comments as in question #28.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We have the same comments as in question #29

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: However, is there a coordinated effort between the RA and TOP to mitigate an OSL? Or, do the RA and TOP perform the mitigation plan completely independent of one another.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: Are there current reports available to better identify what the cause was for exceeding the security limit and would this report be available within 72 hours to meet the documentation requirement above. If not, maybe the timeframe should be changed.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: Are there current reports available to better identify what the cause was for exceeding the security limit and would this report be available within 72 hours to meet the documentation requirement above? If not, maybe the timeframe should be changed.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	James Stanton
Organization	Calpine
Industry Segment #	5
Telephone	713-830-8694
E-mail	jstanton@calpine.com

Key to Industry Segment #'s:
1 – Trans. Owners
2 – RTO's, ISO's, RRC's
3 – LSE's
4 – TDU's
5 - Generators
6 - Brokers, Aggregators, and Marketers
7 - Large Electricity End Users
8 - Small Electricity Users
9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

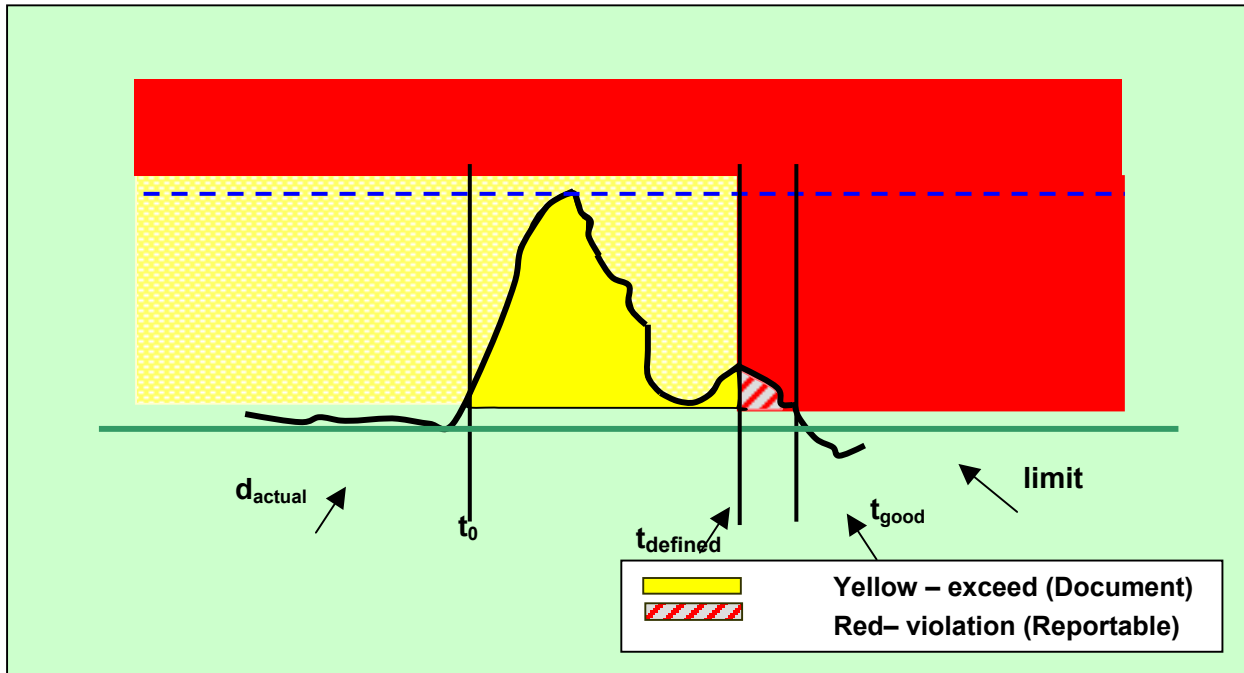
Do you agree?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: The TOP should collect generator data from the RA.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: What kinds of "changes" to facilities are we talking about? If this is defined somewhere else it should be included here. If it is not defined, it should be.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: Would like to see language in the Measure to the effect this documentation of actions taken will be readily available to all participants. This would help insure that potential discriminatory actions do not occur, and if they do, will be discoverable. If it is not readily available then the RA is non-compliant. The Measure and Non-compliance levels should also contain a time period when the documentation will be available.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: The Requirement sentence seems to be poorly constructed. Suggest this alternative: "The Reliability Authority (RA) shall have a mitigation plan that includes procedures designed to prevent operating limits from being exceeded, and to mitigate the effects of periods when the limits are exceeded."

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: See #37 language.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: Suggest changing "instances of exceeding identified system operating limits" to "instances of identified system operating limits being exceeded" Also, in the Measures #1, "Data exists and is retrievable" retrievable by whom? Should be all interested parties.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

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STD Commenter Information (For Individual Commenters)	
Name	Alan Boesch
Organization	Nebraska Public Power Dist.
Industry Segment #	1
Telephone	402-845-5210
E-mail	agboesc@nppd.com

Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial
Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: This is not included in the scope of the RA certification functions. The RA certification function will verify if the processes and procedures are in place to perform the analysis. The certification SAR drafting team will depend the standards to assure that the appropriate data is available.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

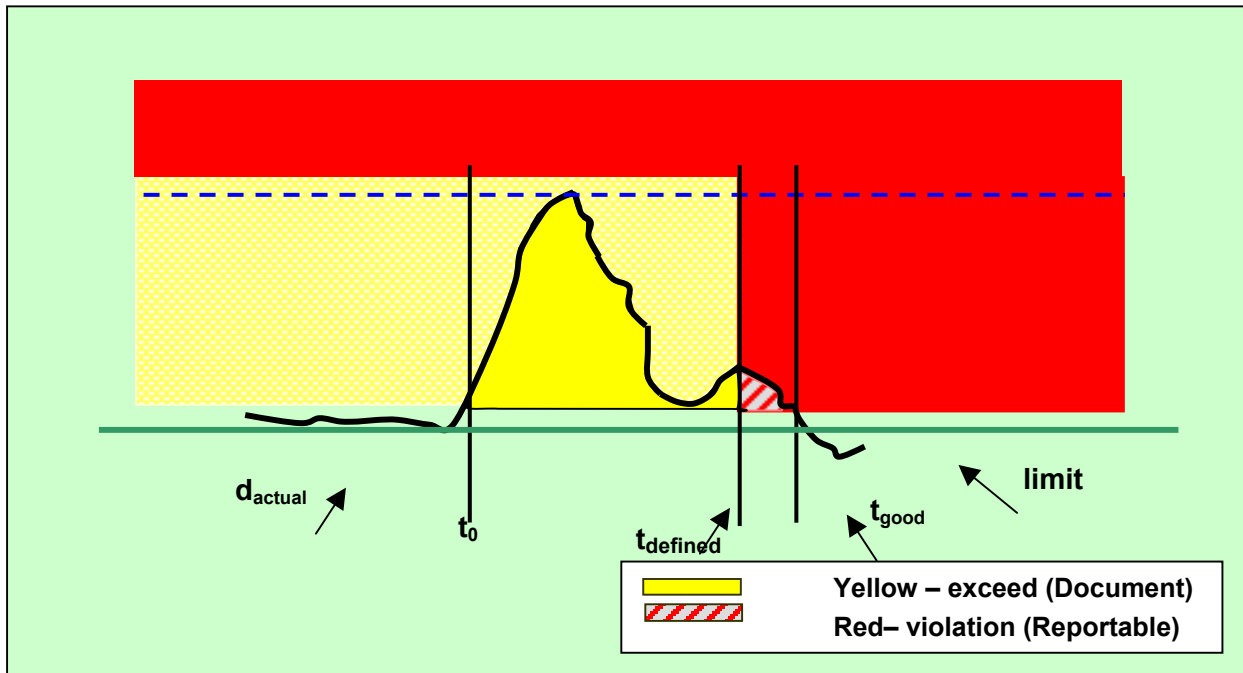
Do you agree?

Yes

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No

Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

"Actual data" and "Actual telemetered data"

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments The Generator should be responsible for getting the data to the RA. How it is accomplished should not be an issue. I would guess that in most situations it will be supplied by Planning.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments The Generator should be responsible for getting the data to the RA. How it is accomplished should not be an issue. I would guess that in most situations it will be supplied by Planning.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: I am very confused by this Standard. Who is going perform these functions the TOP or the RA. The Standard appears to have both performing the same function. The Standard needs to define the relationship between the RA and TOP. Maybe that could be accomplished in a opening paragraph. The requirements on the limits may be too broad. For example, an operating limit should also protect the safety of the public. If a facility was loaded to the point where it no longer met clearance requirements, the RA should respect these limits. The standards also seem to ignore voltage limits. There are limits to how high or low the voltage should be allowed to go before action is required. In addition to steady-state voltages, there should be a limit on transient voltages as well. It is not clear from this standard that these limits apply.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: I am assuming that the RA will not get the data directly but will receive the data from another source. It does not seem appropriate to sanction them for something they do not control. Maybe the non-compliance should be associated with the equipment the RA uses for monitoring the system. In addition the levels of non-compliance use the term "Actual telemetered data" while the footnote to the measures states that real-time, state estimated or calculated data is acceptable. There is at a minimum confusion with the way these terms are stated if not outright

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conflict. The standard needs to be consistent between the measurement and level of non-compliance.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: I am very confused by this Standard. Who is going perform these functions the TOP or the RA. The Standard appears to have both performing the same function. The Standard needs to define the relationship between the RA and TOP. Maybe that could be accomplished in a opening paragraph. The requirements on the limits may be too broad. For example, an operating limit should also protect the safety of the public. If a facility was loaded to the point where it no longer met clearance requirements, the RA should respect these limits. The standards also seem to ignore voltage limits. There are limits to how high or low the voltage should be allowed to go before action is required. In addition to steady-state voltages, there should be a limit on transient voltages as well. It is not clear from this standard that these limits apply.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The levels of non-compliance use the term "Actual telemetered data" while the footnote to the measures states that real-time, state estimated or calculated data is acceptable. There is at a minimum confusion with the way these terms are stated if not outright conflict. The standard needs to be consistient between the measurement and level of non-compliance.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: The standard should state what type of information may be required by the RA. A list similar to that in NERC Operating Policy 4 should be included and the RA could identify what data from this list is required. In addition the RA must make the request with sufficient time for the BA, IA, TOP or other RA to implement the data request.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

¹ Reliability analyses includes both real time and operational planning analyses

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No

Comments: There is no compliance measure to track the RA's reporting data that was requested but not received.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: The standard should state what type of information may be required by the TOP. A list similar to that in NERC Operating Policy 4 should be included and the TOP could identify what data from this list is required. In addition the TOP must make the request with sufficient time for the BA, IA, other TOP or RA to implement the data request.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

² Reliability analyses includes both real time and operational planning analyses

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Comments: There is no compliance measure to track the TOP's reporting data that was requested but not received.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Seven days prior to energization may be an unrealistic expectation. What type of data will the RA be providing to another RA or TOP on new or modified facilities? Will the data originate with the RA? If not the standard should be that the RA pass the data on within a specified period of time, but the requirement to provide the data belongs to the entity that owns the facility. Depending on the type of data you are talking about 7 days might be realistic.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The level of non-compliance does not seem appropriate. Start at level one and then escalate up through the the different levels depending on how late it is seems to be more appropriate.

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: Seven days prior to energization may be an unrealistic expectation. What type of data will the BA be providing to an associated RA or TOP on new or modified facilities? Will the data originate with the BA? If not the standard should be that the BA pass the data on within a specified period of time, but the requirement to provide the data belongs to the entity that owns the facility. Depending on the type of data you are talking about 7 days might be realistic.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The level of non-compliance does not seem appropriate. Starting at level one and then escalate up through the the different levels depending on how late it is seems to be more appropriate.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: Seven days prior to energization may be an unrealistic expectation. What type of data will the IA be providing to an associated RA or TOP on new or modified facilities? Will the data originate with the IA? If not the standard should be that the IA pass the data on within a specified period of time, but the requirement to provide the data belongs to the entity that owns the facility. Depending on the type of data you are talking about 7 days might be realistic.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The level of non-compliance does not seem appropriate. Starting at level one and then escalate up through the the different levels depending on how late it is seems to be more appropriate.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: Depending on the type of data seven days prior to energization may be a unrealistic expectation.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The level of non-compliance does not seem appropriate. Starting at level one and then escalate up through the the different levels depending on how late it is seems to be more appropriate.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Depending on the type of data seven days prior to energization may be a unrealistic expectation.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The level of non-compliance does not seem appropriate. Starting at level one and then escalate up through the the different levels depending on how late it is seems to be more appropriate.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: The measures and outcomes should be related to violating System Operating Limits and not be limited to instability, uncontrolled separation ore cascading outages. See comments to question no. 10 above.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Is there a difference between "run" and converge? A program can run but not produce useful results. It also seems there should be some period of time to permit the solution to converge prior to being out of compliance. It is not realistic to get convergence 100% of the time on real-time programs.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: The measures and outcomes should be related to violating System Operating Limits and not be limited to instability, uncontrolled separation ore cascading outages. See comments to question no. 10 above.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Is there a difference between "run" and converge? A program can run but not produce useful results. It also seems there should be some period of time to permit the solution to converge prior to being out of compliance. It is not realistic to get convergence 100% of the time on real-time programs

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: The measures and outcomes should be related to violating System Operating Limits and not be limited to instability, uncontrolled separation or cascading outages. See comments to question no. 10 above.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: What is the difference between two and three? If it is the difference between documenting and reporting a violation (the amount of time over the limit), this needs to be clarified in the standard. The items in No. 4 need to be expanded based on comments to question No. 10.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: The measures and outcomes should be related to violating System Operating Limits and not be limited to instability, uncontrolled separation or cascading outages. See comments to question no. 10 above.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: What is the difference between two and three? If it is the difference between documenting and reporting a violation (the amount of time over the limit), this needs to be clarified in the standard. The items in No. 4 need to be expanded based on comments to question No. 10.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Who has to approve the plan? The RA, compliance monitor, TOP or someone else? Who approves needs to be identified in the standard.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Who has to approve the plan? The RA, compliance monitor, TOP or someone else? Who approves needs to be identified in the standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Who has to approve the plan? The RA, compliance monitor, TOP or someone else? Who approves needs to be identified in the standard.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Who has to approve the plan? The RA, compliance monitor, TOP or someone else? Who approves needs to be identified in the standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: What is the "specified period of time"? Will this period be defined in this standard? What is the importance of getting this information to the Compliance Monitor in 72 hours? What will the compliance monitor do with the report? What is the basis for having the data available for three years?

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Why is the timing of the report so important?

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: The Standard does not require the RA or TOP to provide evidence that they have the authority to take necessary actions. This requirement is currently included in the Certification SARs.

If yes, please identify what you feel should be added.

This Standard should reference the Certification Standard and any other applicable Standards.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: Version A is very clear and easy to understand the Requirement, Measurement, Outcomes,etc for the particular requirement.

47. If you have comments on the format of the standard, please share them with us.

Comments: Version A is very clear easy to follow. Version B is harder to follow and relate the Measurement, Outcomes,etc for the particular requirement. This is reflected in this response form because it requests that Version A be used to provide the response. Please note that version B has two 201 (f) sections and no 202 (f) section.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Karl Kohlrus
Organization	City Water, Light & Power
Industry Segment #	5
Telephone	217-321-1391
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Key to Industry Segment #'s:
1 – Trans. Owners
2 – RTO's, ISO's, RRC's
3 – LSE's
4 – TDU's
5 - Generators
6 - Brokers, Aggregators, and Marketers
7 - Large Electricity End Users
8 - Small Electricity Users
9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

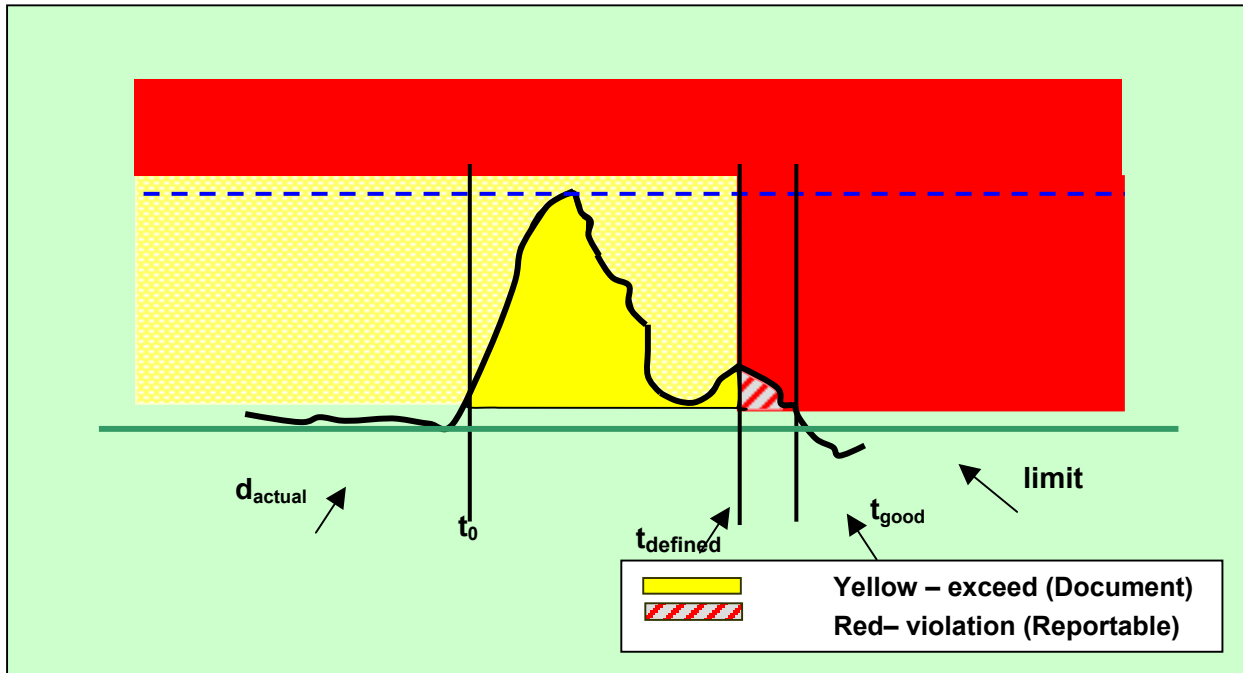
Do you agree?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

- Yes
- No

Comments: To me the graph is unclear. For someone who has not seen this graph before, it is not obvious what it is trying to show. That is, are the bad areas along the x or y axis? It would be better to have a graph with three regions: the allowable (green) region within a deadband, a yellow region that may need documentation, and a red region that is a reportable violation. For example, if a quantity has a deadband of -100 to +100, a yellow range may go from -110 to -100 and from +100 to +110, while the red range may be anything less than -110 and greater than +110.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

- Yes
- No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be a reminder sent out if the data is not sent initially before going directly to Level 4.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be a reminder sent out if the data is not sent initially before going directly to Level 4.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be a reminder sent out if the data is not sent initially before going directly to Level 4.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be a reminder sent out if the data is not sent initially before going directly to Level 4.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be a reminder sent out if the data is not sent initially before going directly to Level 4.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be a reminder sent out if the data is not sent initially before going directly to Level 4.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments: The organization of the document makes it very difficult to read. Much of the data is similar and repetitive. Maybe the document should be organized differently, either separate standards applicable to RA only, the IA only, the BA only, and the TOP only. Then each entity would have to read and comply only with the standard that is applicable to him. An alternative method would be to state in each section that this is applicable to RA, IA, BA or TOP.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)

Name	Roger Green
Organization	Organization Southern Company Services - SOCO Generation
Industry Segment #	5
Telephone	205-257-1903
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Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair: Chair Phone: Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes
 No

Comments:

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

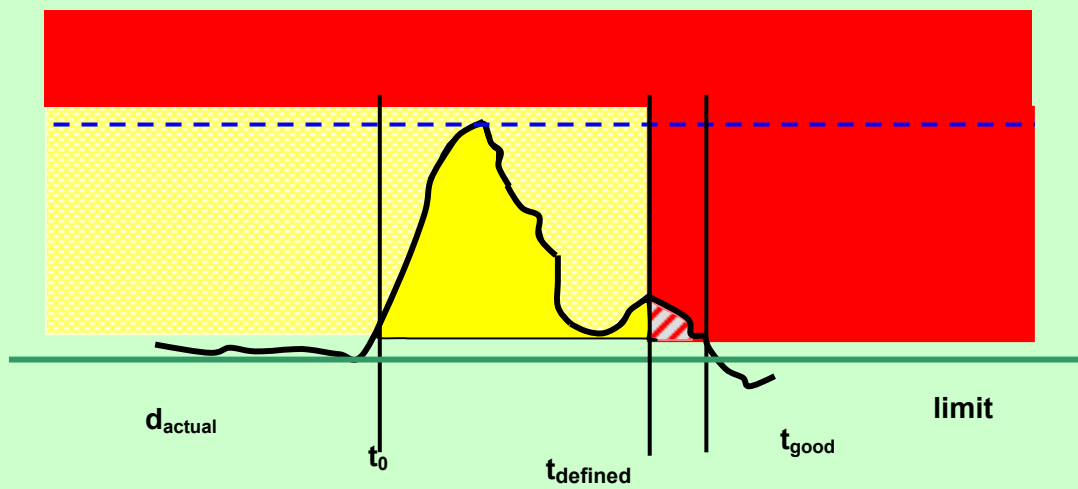
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

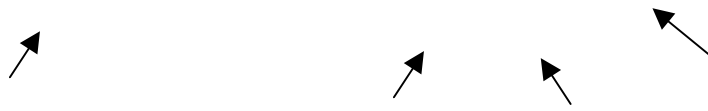
Yes

No

Comments:



STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments Regardless of who receives and distributes the data, the generator owner should only have to provide the data to one group.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments See comment on #8

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: This requirement is too subjective. The necessary actions are not identified to assess compliance. Some results, such as voltage outside a defined limit, should require notice to nuclear generators so that regulatory Technical Specification requirements for continued operation can be met. Otherwise, the units could either be forced offline or into limited operation. This standard should include the requirement that a written agreement be established between the RA, TOP and generators identifying the actions to be taken by mutual agreement. Reference IEEE Std 765-2002 Annex A for further details on this proposed change.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: #1. Cannot properly evaluate until data requirements are specified.
#2. Is it practical for all parties to meet the 7 day data turn around requirements (see Requirements 5-9)? The common time frame indicates the data may have to be submitted by the facility owner to all parties.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: These are non traditional requirements on generation owners (maybe not on the type of data but on the group or groups in which the generator must coordinate).

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: The standard clearly identifies the obligation of generators to provide data to the RA's and TOP's stating in the background that there are various ways generators may be obligated to provide data. A requirement needs to be added addressing the obligation of the RA's and TOP's to likewise provide data to the generators. Additions, deletions, or other changes to the bulk transmission system can impact the accuracy of models used to monitor and assess the adequacy of generating plants, their protective schemes and their interconnections to the grid. An example is any system changes affecting system impedance or changes in transmission relay settings that require coordination with plant relays. One miscoordination between plant relays and transmission relays could result in the tripping of an entire four unit 4000MW plant which is not a contingency normally planned for. Another is any system impedance changes that can affect generator excitation system settings (MEL and URAL) which can result in reactive limits being reached and cascading unit trips.

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

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STD Commenter Information (For Individual Commenters)	
Name	
Organization	
Industry Segment #	
Telephone	
E-mail	

<p>Key to Industry Segment #'s:</p> <p>1 – Trans. Owners 2 – RTO's, ISO's, RRC's 3 – LSE's 4 – TDU's 5 - Generators 6 - Brokers, Aggregators, and Marketers 7 - Large Electricity End Users 8 - Small Electricity Users 9 - Federal, State, and Provincial Regulatory or other Govt. Entities</p>
--

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: <i>ECAR Operations Panel</i>		Group Chair: <i>Jim Cyrulewski</i> Chair Phone: 734-665-3628 Chair Email: <i>jcyrulewski@itctransco.com</i>
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Dan Kinney</i>	<i>AEP</i>	<i>1</i>
<i>Ken Githens</i>	<i>Allegheny Energy Supply</i>	<i>5</i>
<i>Mark Klohonatz and Bill Smith</i>	<i>AP</i>	<i>1</i>
<i>Bob McClelland</i>	<i>DQ</i>	<i>1</i>
<i>Tom Kraynak</i>	<i>ECAR</i>	<i>2</i>
<i>Dave Folk and Ray Morella</i>	<i>FE</i>	<i>1</i>
<i>Lew Gray and Paul Fielden</i>	<i>IPL</i>	<i>1</i>
<i>Jim Cyrulewski</i>	<i>ITC</i>	<i>1</i>
<i>Joe Dobes</i>	<i>NIPSCO</i>	<i>1</i>
<i>Bill Squibb</i>	<i>OVEC</i>	<i>5</i>
<i>Gerry Mellingeri</i>	<i>PJM</i>	<i>1</i>

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1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: 'data' should include real-time, state estimated, calculated or manually monitored values. It should allow a Reliability Coordinator/Transmission Operator/Generator to station an individual at a plant or substation to directly monitor values.

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this "base data" that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: (1) This assumption needs to be clearly stated at the front end of the standard. (2) The standard should define the data that needs to be provided similar to NERC Appendix 4B - Electric System Security Data.

4. The draft standard uses the term "Industry Accepted Format" to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

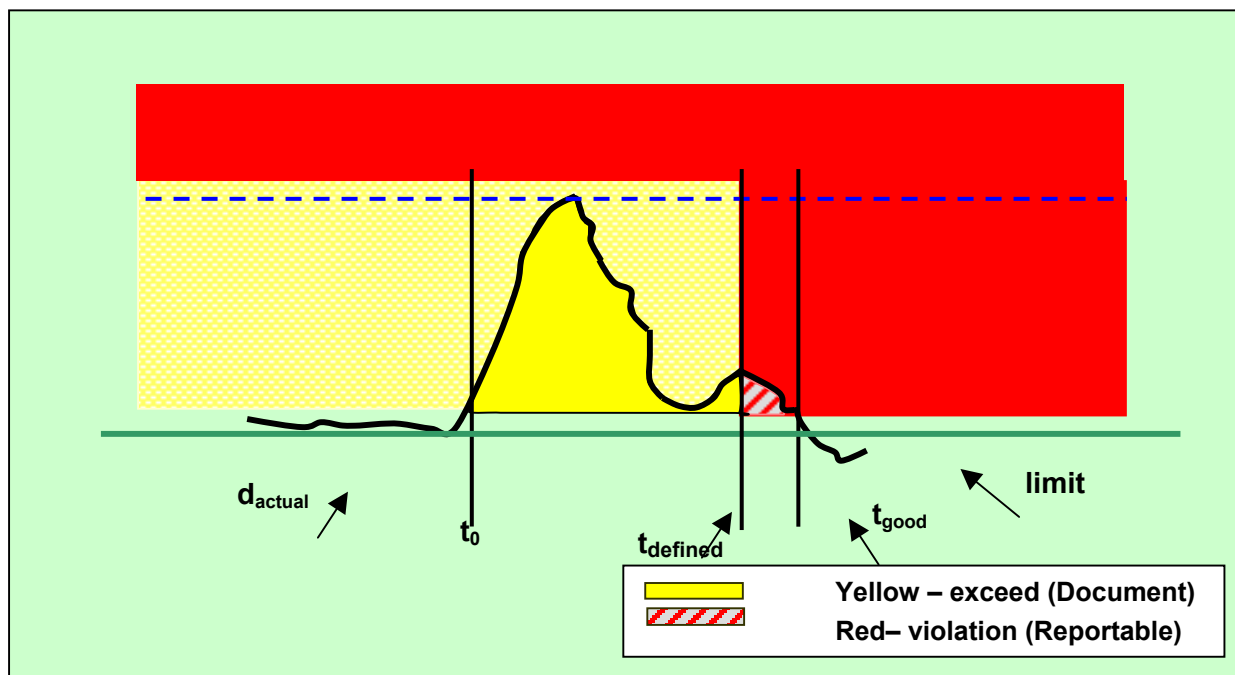
Do you agree?

Yes

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No

Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: First this graph is a great aid in understanding this standard. I really like it. The following suggestions are for making a good thing better. I voted yes because of my interpretation of the graph. I'm not sure my interpretation is completely correct. I recommend that the graph (and the description of the graph) also be done in various shades of grey because not everybody has a color printer and many operators would get a black and white copy of the graph. The pointers for Dactual, tgood, and limit should be closer to the curve or line that they represent. I don't know why there is a dotted blue line representing the max value of the monitored value; it doesn't seem to be used anywhere. I think it would be of value to state that a reportable violation does not exist until the Operating Security Limit has been consecutively violated for tdefined. I think it would be of value to state that the exceeding of the operating limit for any period of time must be documented. Under existing NERC Policy I assume that there would not be a reportable Operating Security Limit Violation if the Operating Security Limit were exceeded for 28 minutes, then it was not exceeded for 1 minute, then it was exceeded for another 28 minutes, then it was not exceeded for 1 minute and this pattern

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continued for the next 24 hours. I'm teasing a little here because you can't cover every circumstance in detail. In fact I do think that the above example would be a reportable Operating Security Limit Violation. If in the graph the monitored value dipped below the Operating Security Limit for an instance and then exceeded the limit for the rest of the period and that was still an Operating Security Limit Violation, another loophole will have been addressed.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: I thought that there wasn't an Operating Security Limit Violation until an Operating Security Limit was exceeded for a period of time (tdefined). I wasn't aware of an Operating Security Limit Violation that occurred for an instantaneous exceeding of a limit. Maybe I don't fully understand the Standard. Need to better describe what is a violation versus what is a reportable violation. The concept of a violation in the red zone is confusing.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

(1) Occurrence Period, (2) Operating Security Limit Violation, (3) Transmission Operator

If possible, please provide us with a definition for each of these terms.

(1) Occurrence Period - I'm not sure what you mean when you refer to an Occurrence Period,
(2) Operating Security Limit Violation - A limit that results in instability, uncontrolled separation, or cascading outages if exceeded for more than one hour. I believe this definition is appropriate for the existings NERC template on Operating Security Limit Violation.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments The Generator is the entity closest to the physical facilities so he should be the best possible resource. However, the Reliability Coordinator (RC) should use data from the BA, the TOP, or the Planning Authority, if he can't get the data from the Generator. The Generator also may prefer to supply all his data via the BA or the TOP. This should be allowed. As long as the data is accurately supplied, it doesn't matter who supplies it. I don't think the standard should be too prescriptive on who supplies the data.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments The Generator is the entity closest to the physical facilities so he should be the best possible resource. However, the TOP should use data from the Reliability

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Coordinator (RC), the BA, or the Planning Authority if he can't get the data from the Generator. The Generator also may prefer to supply all his data via the BA or the RC. This should be allowed. As long as the data is accurately supplied I don't care who supplies it. I don't think the standard should be too proscriptive on who supplies the data.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: I agree with the intent of this requirement and associated performance/outcome but the written words need to be changed. (1) Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that exceeds a limit. This concept also needs to be reflected in section 201 (e) Compliance Monitoring Process. (2) Delete the paranthetical phrases, (in real time) and (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system), in Requirement 1. We have already commented that it was allowable for monitoring to be done via voice communications from a manned substation which is not real time monitoring. The standard needs to add a more detailed definition of an Operating Security Limit. If this were done one of the paranthetical expressions would not be needed. The comments to Question 45 also apply to this question.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

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Comments: . (1) Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that exceeds a limit. (2) There should not be a non-compliance at level 1 or 2 when a Reliability Coordinator (RC) or Transmission Operator (TOP) stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working. The existing standard forces a non-compliance whenever the telecommunications equipment is not working. (3) Note 1 says - 'Real Time could be continuous analog data or data sampled at a rate greater than or equal to one minute -----'. One minute is a unit of time not a rate. I think it should say - 'Real time could be continuous analog data or data sampled faster than or equal to once a minute-----'. (4) Requirements 201 and 202 are very similar. Requirement 201 applies to Reliability Coordinators. Requirement 202 applies to Transmission Operators. The requirements are duplicative. The standard should require system conditions to be monitored by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing the monitoring if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator. (5) The description of Level 1 Non-compliance and Level 2 Non-compliance under 'Levels of Non-compliance for this Requirement' should be changed. Level 1 non-compliance should read 'Actual telemetered data or a surrogate for actual telemetered data needed for monitoring deviations from system operating limits was unavailable for 24 hours'. Level 2 non-compliance should read 'Actual telemetered data or a surrogate for actual telemetered data needed for monitoring deviations from system operating limits was unavailable for 48 hours'. There is nothing wrong with using a manual reading phoned in from a substation or using a value calculated from surrounding parameters. A value calculated from surrounding parameters might be better than an incorrect telemetered value. Some State Estimation systems use a value calculated from surrounding parameters instead of the telemetered value for certain circumstances.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: I agree with the intent of this requirement and associated performance/outcome but the written words need to be changed. (1) Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that exceeds a limit. This concept also needs to be reflected in section 202 (e) Compliance Monitoring Process. (2) Delete the paranthetical phrases, (in real time) and (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system), in Requirement 1. We have already commented that it was allowable for monitoring to be done via voice communications from a manned substation which is not real time monitoring. The standard needs to add a more detailed definition of an Operating Security Limit. If this were done one of the paranthetical expressions would not be needed. The comments to Question 45 also apply to this question.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

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Comments: (1) Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that exceeds a limit. (2) There should not be a non-compliance at level 1 or 2 when a Reliability Coordinator (RC) or Transmission Operator (TOP) stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working. The existing standard forces a non-compliance whenever the telecommunications equipment is not working. (3) Note 1 says - 'Real Time could be continuous analog data or data sampled at a rate greater than or equal to one minute-----'. One minute is a unit of time not a rate. I think it should say - 'Real time could be continuous analog data or data sampled faster than or equal to once a minute----'. (4) Requirements 201 and 202 are very similar. Requirement 201 applies to Reliability Coordinators. Requirement 202 applies to Transmission Operators. The requirements are duplicative. The standard should require system conditions to be monitored by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing the monitoring if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator. (5) The description of Level 1 Non-compliance and Level 2 Non-compliance under 'Levels of Non-compliance for this Requirement' should be changed. Level 1 non-compliance should read 'Actual telemetered data or a surrogate for actual telemetered data needed for monitoring deviations from system operating limits was unavailable for 24 hours'. Level 2 non-compliance should read 'Actual telemetered data or a surrogate for actual telemetered data needed for monitoring deviations from system operating limits was unavailable for 48 hours'. There is nothing wrong with using a manual reading phoned in from a substation or using a value calculated from surrounding parameters. A value calculated from surrounding parameters might be better than an incorrect telemetered value. Some State Estimation systems use a value calculated from surrounding parameters instead of the telemetered value for certain circumstances.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: I recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state '----- timeframe, and notation that data be technically accurate and complete'. I would rewrite these measures to state '-----timeframe, and notation that data be accurate and complete'. What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

¹ Reliability analyses includes both real time and operational planning analyses

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Yes

No

Comments: . Requirements 203 and 204 are very similar. Requirement 203 applies to Reliability Coordinators. Requirement 204 applies to Transmission Operators. The requirements are duplicative. The standard should require accurate models to be maintained by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them maintaining accurate models if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: I recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state '----- timeframe, and notation that data be technically accurate and complete'. I would rewrite these measures to state '-----timeframe, and notation that data be accurate and complete'. What is the difference between accurate data and technically accurate date? Is technically accurate data better that accurate data? Is technically accurate data different that accurate data?

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

² Reliability analyses includes both real time and operational planning analyses

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Yes

No

Comments: Requirements 203 and 204 are very similar. Requirement 203 applies to Reliability Coordinators. Requirement 204 applies to Transmission Operators. The requirements are duplicative. The standard should require accurate models to be maintained by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them maintaining accurate models if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from (providing specified data no less than 7 days prior to the energization of new facilities) to (providing specified data prior to the energization of new facilities). I can just see someone delaying the installation of a needed facility for 7 days because they didn't want to get a non-compliance. There was not complete agreement on this comment. Seven companies voted in favor of this comment. One company voted against this comment. (2) Change 'by an (associated) RA' to 'by another RA'. Less words, more descriptive. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'. What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from (providing specified data no less than 7 days prior to the energization of new facilities) to (providing specified data prior to the energization of new facilities). I can just see someone delaying the installation of a needed facility for 7 days because they didn't want to get a non-compliance. There was not complete agreement on this comment. Seven companies voted in favor of this comment. One company voted against this comment. (2) I'm not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the BA can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'. What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

- Yes
 No

Comments: (1) Change the Requirement from (providing specified data no less than 7 days prior to the energization of new facilities) to (providing specified data prior to the energization of new facilities). I can just see someone delaying the installation of a needed facility for 7 days because they didn't want to get a non-compliance. There was not complete agreement on this comment. Seven companies voted in favor of this comment. One company voted against this comment. (2) I'm not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the IA can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'. What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from (providing specified data no less than 7 days prior to the energization of new facilities) to (providing specified data prior to the energization of new facilities). I can just see someone delaying the installation of a needed facility for 7 days because they didn't want to get a non-compliance. There was not complete agreement on this comment. Seven companies voted in favor of this comment. One company voted against this comment. (2) I'm not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the TOP can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'. What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from (providing specified data no less than 7 days prior to the energization of new facilities) to (providing specified data prior to the energization of new facilities). I can just see someone delaying the installation of a needed facility for 7 days because they didn't want to get a non-compliance. There was not complete agreement on this comment. Seven companies voted in favor of this comment. One company voted against this comment. (2) I'm not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the Generation Owner can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'. What is the difference between accurate data and technically accurate date? Is technically accurate data better that accurate data? Is technically accurate data different than accurate data?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: Requirements 210 and 211 are very similar. Requirement 210 applies to Reliability Coordinators. Requirement 211 applies to Transmission Operators. The requirements are duplicative. The standard should require a reliability analysis to be performed by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing a reliability analysis if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: The Reliability Coordinator should be allowed to use a previous reliability analysis that covered similar system conditions if the reliability analysis could not be run because of computer problems or was duplicative of a previous reliability analysis. Such action should not result in a non-compliance.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: (1) Requirements 210 and 211 are very similar. Requirement 210 applies to Reliability Coordinators. Requirement 211 applies to Transmission Operators. The requirements are duplicative. The standard should require a reliability analysis to be performed by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing a reliability analysis if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator. (2) The Transmission Operator may not have the wide area data that is available to a Reliability Coordinator and may not have as extensive a model as the Reliability Coordinator. There may be differences between the reliability analysis done by the Transmission Operator and the Reliability Coordinator. There needs to be coordination between the Transmission Operator and Reliability Coordinator on these analysis.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The Transmission Operator should be allowed to use a previous reliability analysis that covered similar system conditions if the reliability analysis could not be run because of computer problems or was duplicative of a previous reliability analysis. Such action should not result in a non-compliance.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: (1) Requirements 212 and 213 are very similar. Requirement 212 applies to Reliability Coordinators. Requirement 213 applies to Transmission Operators. The requirements are duplicative. The standard should require actions be taken to prevent/mitigate identified problems by either the Reliability Coordinator or the Transmission Operator, but not both of them. It should be clear in the agreement between the Transmission Operator and their Reliability Coordinator who has authority to take the action to correct or mitigate a problem. Having two different entities responsible to take action to correct a problem is troublesome. The possibility exists that the two entities may decide on different courses of action to solve the problem. Valuable minutes may be squandered by the two different entities attempting to coordinate actions. Only one entity should have the responsibility to take action and that responsibility needs to be clearly delineated.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: I agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. I don't think that the Reliability Coordinator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action. For instance, if the Reliability Coordinator ordered a

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Balancing Authority to drop load because of low or declining frequency and the Balancing Authority did not drop the load, then the level 4 non-compliance should be charged to the Balancing Authority not the Reliability Coordinator.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: (1) Requirements 212 and 213 are very similar. Requirement 212 applies to Reliability Coordinators. Requirement 213 applies to Transmission Operators. The requirements are duplicative. The standard should require actions be taken to prevent/mitigate identified problems by either the Reliability Coordinator or the Transmission Operator, but not both of them. It should be clear in the agreement between the Transmission Operator and their Reliability Coordinator who has authority to take the action to correct or mitigate a problem. Having two different entities responsible to take action to correct a problem is troublesome. The possibility exists that the two entities may decide on different courses of action to solve the problem. Valuable minutes may be squandered by the two different entities attempting to coordinate actions. Only one entity should have the responsibility to take action and that responsibility needs to be clearly delineated.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: I agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. I don't think that the Transmission Operator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action. For instance, if the Transmission Operator ordered a

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Balancing Authority to drop load because of low or declining frequency and the Balancing Authority did not drop the load, then the level 4 non-compliance should be charged to the Balancing Authority not the Transmission Operator.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Requirements 214 and 215 are very similar. Requirement 214 applies to Reliability Coordinators. Requirement 215 applies to Transmission Operators. The Reliability Coordinator Plan and the Transmission Operator Plan must be coordinated. These plans must clearly state the responsibilities of the Reliability Coordinator and the responsibilities of the Transmission Operator. There must not be any confusion as to who has the responsibility to take specific actions.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Version A and Version B of this questionnaire have different descriptions of non-compliance for this requirement. The standard needs to define which description is correct.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Requirements 214 and 215 are very similar. Requirement 214 applies to Reliability Coordinators. Requirement 215 applies to Transmission Operators. The Reliability Coordinator Plan and the Transmission Operator Plan must be coordinated. These plans must clearly state the responsibilities of the Reliability Coordinator and the responsibilities of the Transmission Operator. There must not be any confusion as to who has the responsibility to take specific actions.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Version A and Version B of this questionnaire have different descriptions of non-compliance for this requirement. The standard needs to define which description is correct.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: (1) The existing NERC template on Operating Security Limits is confusing. This standard is much, much, much more confusing. There are many system operating limits. This standard does not say which system operating limit has to be reported and under what conditions it has to be reported. Do you have to report a system operating limit exceedance that has little impact on bulk power reliability. If so you'll get thousands of irrelevant reports every week for minor system operating limit exceedances. A report should be filed when a Operating Security Limit has been exceeded for 30 minutes per the existing NERC Policy. See the definition of an Operating Security Limit Violation under item 7 of this questionnaire. Requirement 216 has to be much more specific. If one cannot supply the specifics then this standard is not ready for balloting. (2) Requirements 216 and 217 are very similar. Requirement 216 applies to Reliability Coordinators. Requirement 217 applies to Transmission Operators. The requirements are duplicative. The standard should require the documenting of Operating Security Limit violations by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both documenting the violations if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator. (3) The standard needs to clarify the difference between a reportable incident and an incident that is not reportable but must be documented.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:

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- Logs were available but supporting documentation was unavailable
- Supporting documentation indicated unlogged violation
- An incident occurred and there was no report within 72 hours

4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: 1) The existing NERC template on Operating Security Limits is confusing. This standard is much, much, much more confusing. There are many system operating limits. This standard does not say which system operating limit has to be reported and under what conditions it has to be reported. Do you have to report a system operating limit exceedance that has little impact on bulk power reliability. If so you'll get thousands of irrelevant reports every week for minor system operating limit exceedances. A report should be filed when a Operating Security Limit has been exceeded for 30 minutes per the existing NERC Policy. See the definition of an Operating Security Limit Violation under item 7 of this questionnaire. Requirement 216 has to be much more specific. If one cannot supply the specifics then this standard is not ready for balloting. (2) Requirements 216 and 217 are very similar. Requirement 216 applies to Reliability Coordinators. Requirement 217 applies to Transmission Operators. The requirements are duplicative. The standard should require the documenting of Operating Security Limit violations by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both documenting the violations if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator. (3) The standard needs to clarify the difference between a reportable incident and an incident that is not reportable but must be documented.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: (1) Throughout the standard the term Reliability Authority is used. This term is out of date and has been replaced by Reliability Coordinator. Is the Reliability Authority in this questionnaire identical to the Reliability Coordinator function? This issue needs clarification. If the Reliability Authority in this questionnaire is different than the Reliability Coordinator function, there needs to be an explanation of the difference. (2) Throughout the standard the term 'system operating limit' is used. This term should be replaced with the term 'Operating Security Limit'. There are many different system operating limits. These standards do not apply to all of them. This standard only applies to Operating Security Limits violations. The term Operating Security Limit should be used and defined to distinguish it from the multitude of system operating limits that are routinely used in everyday operation.

If yes, please identify what you feel should be added.

**(1) Throughout the standard replace the term Reliability Authority with Reliability Coordinator.
(2) Throughout the standard replace the term 'system operating limit' with Operating Security Limit. Write a definition of Operating Security Limit.**

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: It will be easier to modify the standards if each requirement is a stand alone item. There was not complete agreement on this item. Eight companies preferred Version A - Each Requirement Separate. Two companies preferred Version B - Related Requirements Combined.

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47. If you have comments on the format of the standard, please share them with us.

Comments: (1) The application of the Sanctions table is difficult to understand. A few examples on how to apply sanctions would be helpful. (2) Add descriptive titles to the subsections.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)
Name
Organization
Industry Segment #
Telephone
E-mail

<p>Key to Industry Segment #'s:</p> <p>1 – Trans. Owners 2 – RTO's, ISO's, RRC's 3 – LSE's 4 – TDU's 5 - Generators 6 - Brokers, Aggregators, and Marketers 7 - Large Electricity End Users 8 - Small Electricity Users 9 - Federal, State, and Provincial Regulatory or other Govt. Entities</p>
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STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: <i>NERC Operating Limit Definition Task Force</i>	Group Chair: <i>Wayne VanOsdol</i> Chair Phone: (651) 632-8413 Chair Email: wvanosdol@midwestiso.org	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>H. Steven Myers</i>	<i>ERCOT</i>	<i>ISO/RTO/CA</i>
<i>Al Miller</i>	<i>The IMO</i>	<i>ISO/RTO/CA</i>
<i>Lynna Estep</i>	<i>SERC</i>	<i>RRC</i>
<i>Bob Reed</i>	<i>PJM</i>	<i>ISO/RTO/CA</i>
<i>Jim Hartwell</i>	<i>NPCC</i>	<i>RRC</i>
<i>Ed Pfeiffer</i>	<i>Ameren</i>	<i>Trans Owner/Gen</i>
<i>Fran Halpin</i>	<i>BPA</i>	<i>Trans Owner/Gen</i>
<i>Wayne VanOsdol</i>	<i>MISO</i>	<i>ISO/RTO</i>
<i>Bob Dintelman</i>	<i>WECC</i>	<i>RRC</i>
<i>Ray Palmieri</i>	<i>ECAR</i>	<i>RRC</i>
<i>David Hilt</i>	<i>NERC</i>	<i>n/a</i>
<i>Don Benjamin</i>	<i>NERC</i>	<i>n/a</i>

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

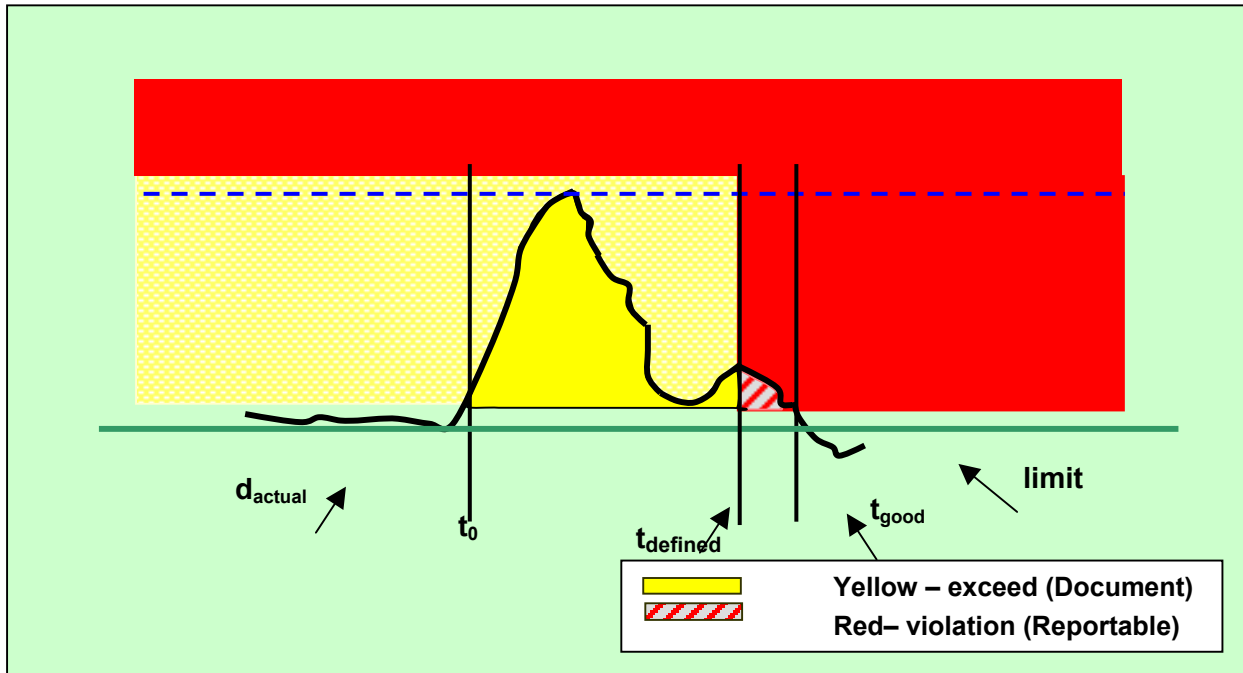
Do you agree?

Yes

No

Comments:

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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

- Yes
- No

Comments: Please refer to the Operating Limits Definition Task Force report, "NERC Operating Limit Definitions and Reporting." The Task Force considers this report to be an integral part of its comments to Standard Drafting Team.

The OLDTF has defined "Limit Compliance Violation" for reporting IRL violations to the Regional Council and NERC.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

- Yes
- No

Comments: See comment to Q5 above.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Instability

Uncontrolled Separation

Cascading Outages

Widespread Area

Local Area

If possible, please provide us with a definition for each of these terms.

The OLDTF has defined these terms in its attached report.

The OC has directed the Reliability Coordinators to use these definitions as a "field test" this summer, and to work with the Standard Drafting Team to incorporate these definitions into the Reliability Standard.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments At least in ERCOT, the T. Op does not receive all of the generator data; some is provided to the T. Op in an Interconnection Agreement, but more is required to be provided to the ERCOT in its role as the RA.

The BA may well provide the data if the generators are under a contractual obligation to do so with the BA.

The Generator Owner and Transmission Owner provides data for their facilities.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

BA

Generator

Planning Authority

Comments ERCOT performs these analysis as the RA, BA, and Planning Authority.

Not certain why the T. Op performs system analyses. That's the RA's function. The RA may or may not accept the T. Op's analysis.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Please refer to the OLDTF report. The RA must ensure that the SOLs and IRLs are established.

The Measures don't relate to the Requirement. The requirement is that the RA "shall monitor" not that "the limits be available" or "data is available." Those measures should pertain to the function(s) responsible for providing the limits and ratings, such as the Generator Owner or Transmission Owner.

The measure should be that the RA did indeed monitor the limits. What's unstated is over what time frame. Continuous monitoring? Hourly?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please refer to our comments to Q10. The RA typically cannot control whether the data is provided, but may have acceptable and prudent measures in place to require the data.

This comment would apply through the document.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: Same comments as Q10. The Measures don't relate to the Requirement.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Same comment at Q11.

It appears to that there will likely have numerous Level 1 non-compliances unless a threshold is established. Anyone who has been a system operator knows that metering signals fall in and out. If level 1 indicates that every time you lose a signal for metering you are non-compliant, I think it needs reconsideration. The drafting team should consider that state estimators can supply some of this data in the short term.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: The Requirement should be refocused to state that the RA needs to maintain accurate models and run studies to determine IRLs rather than directing the RA to collect the data it needs. There should be Requirements of the T. Owner, G. Owner, LSE, and T. Operator to provide the RA with the data it needs for its studies.

Under Requirements 6 and 7 minimum times are specified for provision of "monitoring" data provision. However no similar minimum time line is stated for this requirement. For consistency, a minimum time should also be stated. This time specification, should provide sufficient time for the RA etc to perform data base modelling and development and confirmation of limits.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification

¹ Reliability analyses includes both real time and operational planning analyses

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3. Not Applicable

4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please see the first paragraph in our comment to Q14 above.

The RA typically has no control of whether the data is provided, but may have prudent and acceptable measures in place which require the data.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: Same comment as Q 14, but with focus on T. Op. Also, the T. Op. does not need to collect any information from the IA. The IA has next-hour bilateral and market dispatch interchange information, but it's not of any use to the T. Op.

Under Requirements 6 and 7 minimum times are specified for provision of "monitoring" data provision. However no similar minimum time line is state for this requirement. For consistency, a minimum time should also be stated. This time specification, should provide sufficient time for the RA etc to perform data base modelling and development / confirmation of limits.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable

² Reliability analyses includes both real time and operational planning analyses

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4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please see comment for Q 15.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: The timing of this requirement conflicts with Requirement 5. That is, the seven days does not leave the RA any time to complete its obligations under requirement 5.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: This Requirement makes no sense. The IA authorizes next-hour bilateral Transactions and Market dispatch that are ready for physical implementation.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: The timing of this requirement conflicts with Requirement 5. That is the seven days does not leave the RA any time to complete their obligations under requirement 5.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: The timing of this requirement conflicts with Requirement 5. That is the seven days does not leave the RA any time to complete their obligations under requirement 5.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: Agree with the Requirement, but as the Outcome is written, assumes that all RAs have online reliability analysis programs to identify the applicable limits. In fact many use off-line studies to perform base case analysis which are translated into cyclic computer calculations.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please refer to our response to Q28. Also, we would have treated this requirement as more important. Instead of skipping level 4, we would have used levels 2, 3, and 4 with the caveat of having appropriate predetermined analyses to take the place of real-time analyses.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: In the ERCOT Region, the primary responsibility for such analysis is ERCOT as the RA. This is in conjunction with any analysis the TOP performs, but the TOP does not have the primary responsibility. In other words, the RA is responsible for these analysis.

Also, please refer to our comments to Q28.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please refer to our comments to Q29.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: Agrees with OLDTF report.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 2 and 3 appear to be the same.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: This requirement does not adequately address the coordination that must take place between the T. Op and the RA. Furthermore, the T. Op may not include a wide enough scope to determine these limits.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See response to Q 33. 2 and 3 appear to be the same.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Re Outcomes: We believe that this should read "procedure or policy" to ensure "Operating within limits and associated mitigating actions are taken." We don't know how you can have a "documented, approved mitigation plan" for unknown contingencies. Furthermore, Requirement 14 is awkward -- such a plan should be part of the Certification requirements, not this standard.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Same a response to Q36.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: First, we believe this applies to IRL Compliance Violations only. Also, should split into a Preliminary Report and a "complete" Report. Preliminary Report should be submitted within 72 hours. A longer time is required for the "complete" report; probably a minimum of one month.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 3 implies a log is kept, but the information could be kept in some other form. The important point is that the supporting documents be available.

Also, please refer to our response to Q40 and suggestion that the report be split into

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preliminary and final versions.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: This Requirement needs to be reviewed with respect to the OLDTF report. If the Requirement refers to documenting SOL violations as defined by the OLDTF, then reporting may be required to the Regional Council. If the requirement refers to IRL Compliance Violations, then the RA needs to submit that report to the Regional Council and NERC.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: In the ERCOT Region, ERCOT uses ratings provided by the equipment owners to determine the limits. The TOP doesn't determine them.

If yes, please identify what you feel should be added.

In some Regions or Interconnections, the RA may delegate certain tasks to other functions, though the RA is responsible for ensuring that these tasks are performed. There needs to be some kind of general statement to this effect. This is being addressed in the Functional Model.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: Should consider the definitions and recommendations developed by the Operating Limit Definition Task Force as endorsed by the Operating Committee.

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: Neither version provides a completely orderly and logical flow. That being said, if there is a requirement to pick one over the other, Version B is much more preferable. (follows a more logical flow of the two). Requirements are not buried like requirements 10 / 11 / 12 in version "A".

47. If you have comments on the format of the standard, please share them with us.

Comments: Building upon comments above, no entities should have to search through a number of Compliance templates to find all of the requirements applicable to them. Version B still has this in that 207 remains buried after TOP requirements.

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STD Commenter Information (For Individual Commenters)	
Name	Toni Timberman
Organization	Bonneville Power Transmission
Industry Segment #	1
Telephone	(360)619-6015
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- Key to Industry Segment #'s:**
- 1 – Trans. Owners
 - 2 – RTO's, ISO's, RRC's
 - 3 – LSE's
 - 4 – TDU's
 - 5 - Generators
 - 6 - Brokers, Aggregators, and Marketers
 - 7 - Large Electricity End Users
 - 8 - Small Electricity Users
 - 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes
 No

Comments: Define 'real'

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: Need to allow for requesting additional data not previously requested for the original database, but not necessarily associated with a new facility. Very often a State Estimator or Operational Planning studies will identify the need for additional information for an area where the solution is not as good as desired, and additional information for existing facilities to improve the model or additional real-time measurements will be requested to allow a better solution.

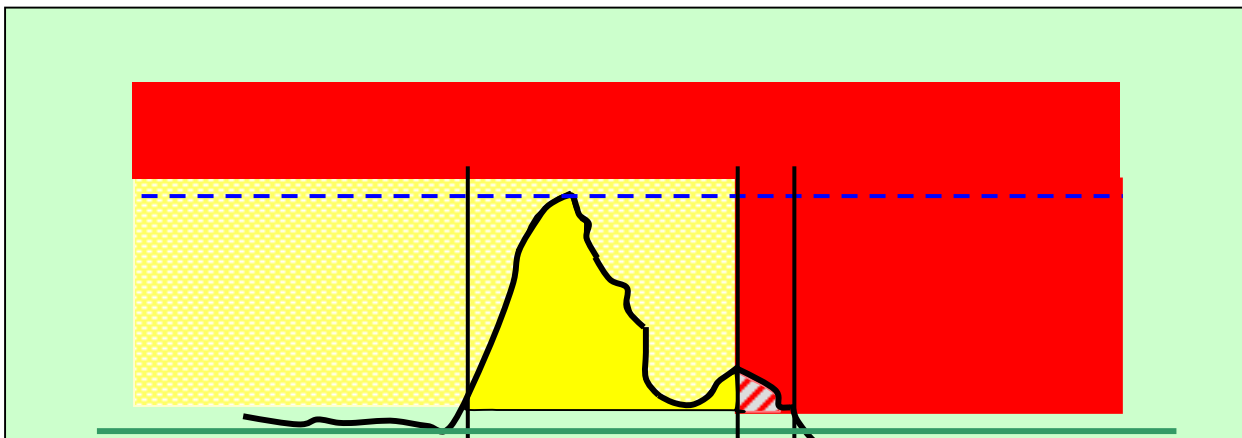
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

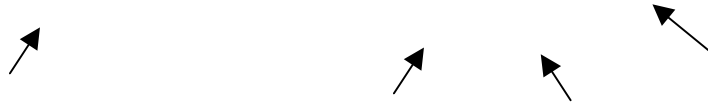
Yes

No

Comments: an “Industry Accepted Format” does not exist.



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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

X Yes

No

Comments: A diagram such as this should be part of the Standard, but the green solid line and the blue dashed line should be deleted as they have no relevance and are confusing.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

X Yes

No

Comments: If you mean the red slashed zone, then yes. The solid red should be removed as it is irrelevant and confusing.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

REAL

Surrogate (requirement 2)

DATA

“Problems” (requirement 10)

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

X Generator

Planning Authority

Comments The generator Owner or Operator should provide the unit characteristics and the real-time data.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

X Generator

Planning Authority

Comments The generator Owner or Operator should provide the unit characteristics and the real-time data.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Thermal Overloads are not specifically mentioned. Is that assumed to be the cause of the Cascading Outages?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: # 4 is reasonable, but the other levels of non-compliance are related to data availability, not to the requirement that the RA monitor limits and associated data. The responsibility for data availability rests with those providing the data. At the most, the RA should have processes and procedures (and alarms?) in place to make them aware of when the data is bad...ie, when a real-time measurement has not been available for xx minutes, or when a data point value has not changed for xx minutes. (It is possible for the data link to be bad and for data to still be coming in but not updating).

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: According to the Functional Model,

“The **Transmission Operator** operates and maintains the transmission facilities, and is responsible for local reliability functions. The Transmission Operator under the Reliability Authority’s direction can take action, such as implementing voltage reductions, to help mitigate an Energy Emergency.”

This does not say that the Transmission Operator is responsible for the reliability of the bulk Power System. Does the term “operate” in the functional model include the responsibility to “monitor”?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See response to Requirement 1

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: In the text of the Requirement, the term "Generators" is not definitive enough to describe who is responsible for providing the "data". A Generator Operator may not have access to the dynamic model, and the Generator Owner may not have access to the real-time data.

TOW needs to be added to the text of the requirement as one of the entities responsible for providing data to the RA.

The words "Industry Accepted Format" and "technically accurate" should be deleted from the Measures, since an Industry Accepted Format does not exist, and at times Technically Accurate information is not available. There may not be generator test data available, so default data is used in the studies. Maybe "best available data" would be more realistic. Actually, I suggest that the text for measures 1 & 2 be modified to end at 'timeframe', and the rest of the sentence be deleted.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or

¹ Reliability analyses includes both real time and operational planning analyses

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some data technically inaccurate or incomplete)

2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Re-word #1 to remove “Industry accepted format” and “technically inaccurate”. Very often the initial data specification will include what is perceived as necessary at the time, and later additional data will be requested. I don’t think a data request from the RA could ever be considered ‘complete’, if that means that every bit of information has been specified that ever could possibly be needed. # 2 seems ok.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: In the text of the Requirement, the term "Generators" is not definitive enough to describe who is responsible for providing the "data". A Generator Operator may not have access to the dynamic model, and the Generator Owner may not have access to the real-time data.

TOW needs to be added to the text of the requirement as one of the entities responsible for providing data to the TOP.

The words "Industry Accepted Format" and "technically accurate" should be deleted from the Measures, since an Industry Accepted Format does not exist, and at times Technically Accurate information is not available. There may not be generator test data available, so default data is used in the studies. Maybe "best available data" would be more realistic. Actually, I suggest that the text for measures 1 & 2 be modified to end at 'timeframe', and the rest of the sentence be deleted.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)

² Reliability analyses includes both real time and operational planning analyses

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- 2. Data was not requested **OR** there was no record of specification
- 3. Not Applicable
- 4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Re-word #1 to remove “Industry accepted format” and “technically inaccurate”. Very often the initial data specification will include what is perceived as necessary at the time, and later additional data will be requested. I don’t think a data request from the RA could ever be considered ‘complete’, if that means that every bit of information has been specified that ever could possibly be needed. # 2 seems ok.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:The requirement for providing data should rest with the entity energizing the new equipment. Maybe should change the “no less than 7 days” language to say “as specified by the requesting entity, but no less than 7 days”. The RA may not legally be able to pass data that it received from one TOP to another TOP because of confidentiality requirements. A TOP that needs data from another TOP should make arrangements to get that data directly. The RA to RA link is ok. Also, data requests may not necessarily be limited to “new facilities or changes to existing facilities”.

Levels of Non-compliance for this Requirement:

- 1. Not Applicable
- 2. Not Applicable
- 3. Not Applicable
- 4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Again, a data request may not necessarily pertain to new or revised facilities. Requirement must be made more generic.

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: The language “no less than 7 days prior to the energization of new facilities or changes to existing facilities” is not relevant to BA data, since the BA is not normally involved with new facilities and the data requested from a BA is very different than from the other functions.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: delete new/revised facilities

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: The language “no less than 7 days prior to the energization of new facilities or changes to existing facilities” is not relevant to IA data, since the IA is not normally involved with new facilities and the data requested from a IA is very different than from the other functions.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: delete new/revised facilities

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: Data provision should not be limited to “the energization of new facilities or changes to existing facilities” and the timeline should be set by the data requestor.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: delete “for new/revised facilities”

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: requirement should be on Generator Owner or Operator, and the timeline specified by the requesting entity. Delete “the energization of new facilities or changes to existing facilities”. BA should receive data from Generator also...timeline as specified by requesting party, but no less than 7 days...

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: delete new/revised facilities

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: Lots of comments here....what is the definition of "problems"? Is the requirement saying that studies must be done until they come up with a scenario that would cause instability, etc? Taken literally, that is what this requirement is asking for. Must the studies run until they identify the 6-line, 3-substation outage combination that would tip the system over the edge? Realistically, the requirement should specify "n-1, n-2" types of studies, or "credible contingencies", etc. Required analyses should be in line with the NERC Reliability Criteria. The requirement seems to be backwards. The RA should evaluate its current operating condition to assess that the system is secure from instability, etc. If the Operational Planning studies were done correctly, no "problem" should be identified that could cause instability, etc. Also, there is nothing in the requirement that indicates a "program should run", but that is what the measure and the compliance levels are related to. This seems to have been made (inadvertently?) very specific to real-time analysis programs, and I don't believe that is the intent. The outcome mentions "shall run programs" but nothing is said about this in the requirement. Having a dispatcher (operator) assess the condition of the power system is valid "reliability analyses" according to the explanation of terms at the front of this comment form, but I don't believe this could be considered running an analysis program.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Compliance levels are not related to the requirement. A better measure would be whether the RA recognized (or didn't) that there was a need to perform analysis, and whether the analysis was done (or wasn't). The measures and compliance should assess whether the RA did analysis rather than program performance.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: Again, according to the Functional Model the TOP has no responsibilities related to the bulk transmission system. Also see comments to Requirement 10.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments to Requirement 10

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: Functional Model requires RA to “direct” actions rather than “take” actions. TOP or BA would be the entities actually “taking” action. Again, need to know definition of “problems”. Is there a requirement for 3-year retention of information associated with this requirement?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Suggest revising as follows:

1. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no reportable violations occurred
2. Monitoring and/or reliability analyses identified a problem – correct action was taken but not to the extent necessary. Reportable violation occurred.
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken. Reportable violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: TOP has no responsibility for the bulk transmission system. Functional Model says that “Transmission Operator under the Reliability Authority’s direction can take action, such as implementing voltage reductions, to help mitigate an Energy Emergency.” This does not indicate that the TOP can react unilaterally based on real-time monitoring or reliability analyses.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: TOP does not have this responsibility

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Requirement does not specify “documented, approved” mitigation plan but the Outcome and Levels of Non-Compliance use this language. Who is responsible for approving the plan?

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: #1 is not consistent with the requirement. #4 is ok.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Requirement does not state that the documented plan must be approved. Requirement states that actions “prevent exceeding” but the outcome says “remain/return to within”. These are not consistent. Again, TOP has no responsibility for the bulk transmission system.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan’t approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: #1 is not consistent with the requirement. #4 is ok

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: Requirement should state that “report within 72 hours” on instances...

Rather than use “where a system operating limit has been exceeded for a specified period of time” should use “where a reportable violation occurred” and define “reportable violation” elsewhere. In Measure 3, “magnitude” of violation is mentioned for the first time in this standard. I can find no place that includes magnitude as a characteristic of a reportable violation. Suggest moving (EMS or other source of data) to be directly after “supporting documentation” to make it clear that this is what is meant by “supporting documentation”. Duration of violation must be defined...is it just the time of the red-hash mark area of the chart, or is it the yellow area plus the red-hashed area? In measure 3, should “event” be replaced with “reportable violation”?

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

No

Comments: need to clearly define “supporting documentation” vs. “documentation”. What about if a complete report was filed but it came after 72 hours? Is it preferable to file an incomplete report on time and follow up with a complete report later? Also – should “incident” be replaced with “reportable violation”?

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: Requirement is for TOP to document exceeding system limits, regardless of duration? What is "data" in the measure referring to?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

Requirement that “TOP Shall Provide” data, as specified

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: Liked Version B because it lays out separately the requirements for each entity, but the compliance information should be associated with each requirement rather than in the big list at the bottom. It is difficult to sort out which compliance refers to which requirement.

47. If you have comments on the format of the standard, please share them with us.

Comments: highlighting the requirements better and using tabs and font sizes to delineate between the different sections could improve format.

48. Please list any other comments you may have in the space below.

Comments: there were content differences in addition to format differences between Version A and Version B. These differences should be resolved. I will use Version B as the reference:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. Page 1 of 19, footnote 1 – data can be analog or digital
2. Page 2 of 19, 201(b) 6. does not appear in Version A. “Reliability Analysis Programs analyze all system operating limits.....
3. Page 3 of 19, 201(e), third mark – the language “and identifies any problems...” Does not appear in Version A
4. Page 3 of 19, 201(e), 6th mark does not appear in Version A. “Reliability analysis programs analyze all system operating limits
5. Page 3 of 19, 201(f) 3, second mark is not in Version A “No analysis tool was available for use...”
6. Page 3 of 19, 201(f) 3, fourth mark is not in version A “there was a system operating limit violation, but...”
7. Page 5 of 19, 202(b) #6, is not in Version A
8. footnote at bottom of page 5 should include operator assessment as part of the definition of Reliability Analyses
9. Page 7 of 19, 201(f)3, second mark is not in version A “no analysis tool was available”
10. Page 8 of 19, 203(a) : words “approved, documented” were not in Version A
11. Page 8 of 19, 203(b) language is different than in Version A
12. Page 9 of 19, 204(a) word “approved ” was not in Version A
13. Page 9 of 19, 204(b) shoul reference TOP instead of RA
14. Page 10 of 19, 205(a) Requirement is written much differently than in Version A
15. Page 10 of 19, 205(b) Version A uses better language for the Measures
16. page 11 of 19, 205(f)4, second mark – does not exist in Version A

General comment: please get rid of the “marks” and make every item clearly identifiable with a number or letter reference.

That’s all for this round of comments....

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Vern Colbert
Organization	Dominion VA Power
Industry Segment #	1
Telephone	
E-mail	

<p>Key to Industry Segment #'s:</p> <ul style="list-style-type: none"> 1 – Trans. Owners 2 – RTO's, ISO's, RRC's 3 – LSE's 4 – TDU's 5 - Generators 6 - Brokers, Aggregators, and Marketers 7 - Large Electricity End Users 8 - Small Electricity Users 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: Data should be defined

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: Describe what a manual study will consist of. Reliability analysis should only be performed by the RA, not the TOP.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

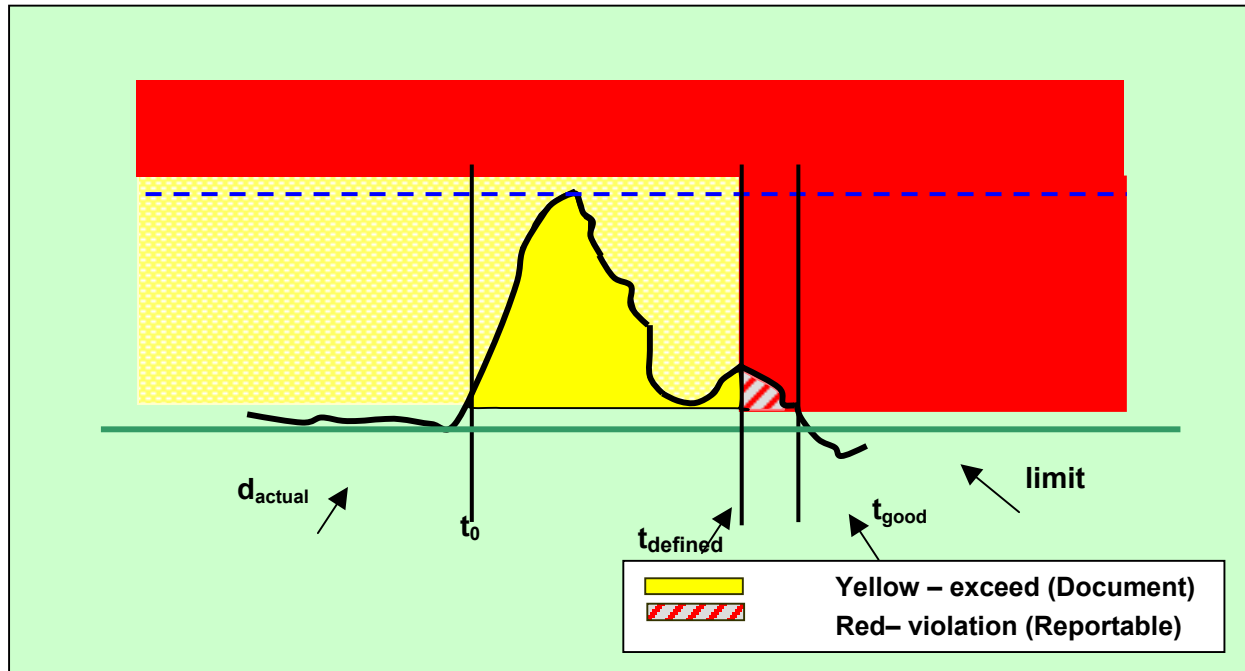
Do you agree?

Yes

No

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: Wait until the OLDTF defines this.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: Wait until the OLDTF defines this

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: Collection of data should be an RA responsibility

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: TOP is not required to gather and provide data to the RA.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Seven days is not enough time.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: Seven days is not enough time.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: It is not clear what data the IA would be required to provide.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: Seven days is not enough time.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Seven days is not enough time.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: Define how often the studies should be performed.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: The RA should perform this analysis

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: RA should prevent an identified problem beforehand. He can only mitigate when there is an actual emergency.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: See #32. The TOP should resolve an identified problem with the cooperation of the RA.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Contingency plan is a better choice of wording for this requirement than mitigation plan.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Same as #36

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: Wait until the OLDTF study is complete.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: See #40.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

It has been shown that there are significant regional differences both in agreements between TOPs and RAs, and in the modeling capabilities and programs available. The SAR states that regional differences are 'none identified'. This is not true. RA audits in SERC for one identified many differences that should be taken into consideration.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Guy Zito
Organization	NPCC
Industry Segment #	2
Telephone	212-840-1070
E-mail	gzito@npcc.org

Key to Industry Segment #'s:
1 – Trans. Owners
2 – RTO's, ISO's, RRC's
3 – LSE's
4 – TDU's
5 - Generators
6 - Brokers, Aggregators, and Marketers
7 - Large Electricity End Users
8 - Small Electricity Users
9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: <i>CP9</i>	Group Chair: <i>Guy Zito</i>	
	Chair Phone: 212-840-1070	
	Chair Email: gzito@npcc.org	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Steve Wokanovicz for Ralph Rufrano</i>	<i>NYPA</i>	<i>1</i>
<i>Roger Champagne</i>	<i>TransEnergie</i>	<i>1</i>
<i>Greg Campoli</i>	<i>NYISO</i>	<i>2</i>
<i>Dan Stosick</i>	<i>ISO-NE</i>	<i>2</i>
<i>David Kiguel</i>	<i>Hydro One</i>	<i>1</i>
<i>David Little</i>	<i>Nova Scotia Power</i>	<i>1</i>
<i>Barry Gee</i>	<i>National Grid US</i>	<i>1</i>
<i>Vinod Kotecha</i>	<i>ConEd</i>	<i>1</i>
<i>Andrew Wilcox</i>	<i>New Brunswick Power</i>	<i>1</i>

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: We agree however would urge the terms used in the standards be explicitly defined and quantified.

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: We recommend substituting Reliability Analysis with operational planning analysis and real time assessment as appropriate to short term or long term studies. Also the term real time needs to be explicitly defined. Although the footnote appearing on page one of Version A defines "Real Time" it is still unclear if this is restricted to data extracted from the Energy Management Systems.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this "base data" that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: The certification process for the RA/TOP is in itself an insufficient vehicle to attain correct modeling data. It is felt that the submission of data reflecting changes to the system may reduce documentation but may unnecessarily restrict the RA's to a potentially incomplete data collection process. For example, in some cases the RA may choose to create study models as new base cases on a seasonal basis. Therefore, the exchange of information has to be handled differently to ensure all parties receive the information in a timely manner such that the operating models in adjoining regions do not lead to different results.

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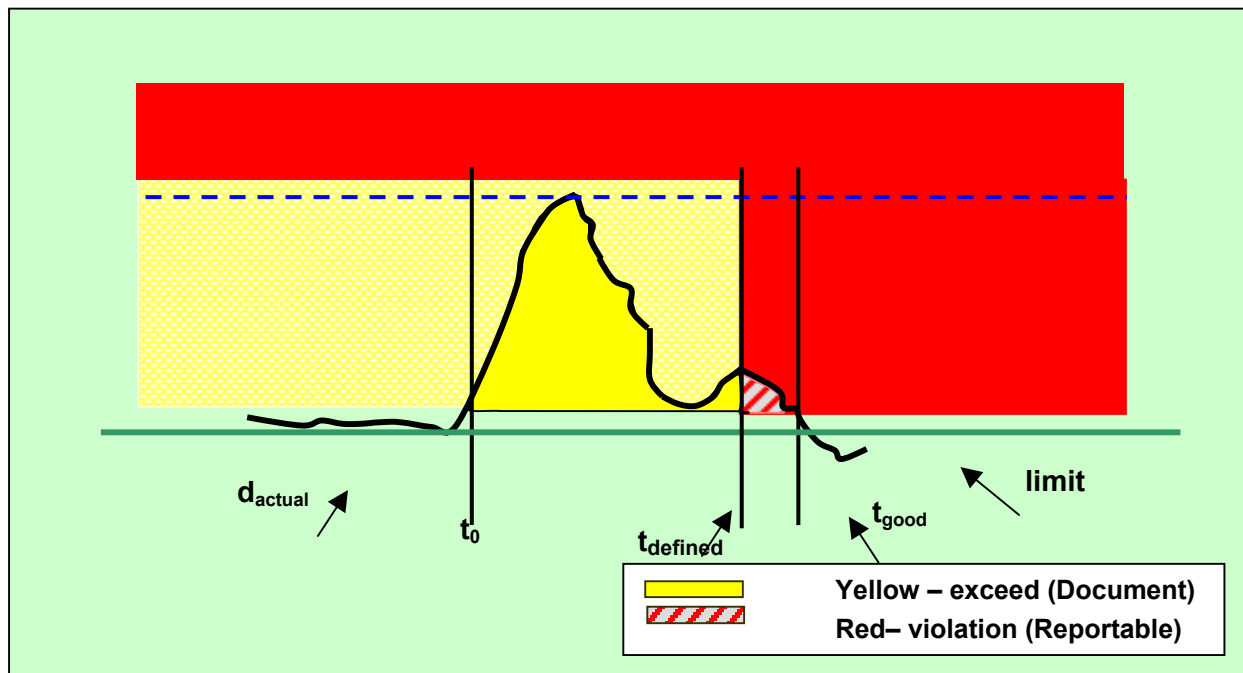
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

Yes

No

Comments: Yes, however "Industry Accepted Format" must not be overly perscrutive and must not preclude mutually agreed upon data exchange methods between adjoining areas. Also how is it proposed to handle "proprietary data"?



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating

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Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Real Time

Self-Certification

Compliance Reset Period

Instability

Cascading Outages

Uncontrolled Separation

If possible, please provide us with a definition for each of these terms.

The Compliance reset period should be defined as 12 months without a violation from the time of the last violation.

Either provide a definition with "actual telemetered data" or replace it with "real time data", throughout this document.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: The levels of non-compliance should not be gauged by the availability of telemetered data but should be measured by the RA's ability to monitor System Operating limits.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 4 is the most important metric for this Requirement and we feel that Level 1, 2 and 3 are unnecessary.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: The levels of non-compliance should not be gauged by the availability of telemetered data but should be measured by the RA's ability to monitor System Operating limits.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 4 is the most important metric for this Requirement and we feel that Level 1, 2 and 3 are unnecessary.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: A form needs to be developed to allow the different authorities to submit this data.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

¹ Reliability analyses includes both real time and operational planning analyses

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Comments: See previous comment on the term "industry accepted format". We also felt that compliance monitoring doesn't belong in the requirement section of this document but may reside in another document pertaining to compliance.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: A form needs to be developed to allow the different authorities to submit this data.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See previous comment on the term "industry accepted format". We also felt that

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

compliance monitoring doesn't belong in the requirement section of this document but may reside in another document pertaining to compliance.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: We are unsure what type of analysis would be required here and it is unclear how often it would need to be performed. From a reliability standpoint, operational planning studies would be done that considers adequacy and system outages. We agree with the requirement but there is insufficient detail to measure compliance

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: We are unsure what type of analysis would be required here and it is unclear how often it would need to be performed. From a reliability standpoint, operational planning studies would be done that considers adequacy and system outages. We agree with the requirement but there is insufficient detail to measure compliance

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: It should be noted that prevention and mitigation are actions that may be undertaken in two different timeframes.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

Further clarification is requested regarding the difference between violation and limit violation.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: It should be noted that prevention and mitigation are actions that may be undertaken in two different timeframes.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

Further clarification is requested regarding the difference between violation and limit violation.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: It is only necessary to have a procedure in place that relieves the SOL violation. It is unclear if a mitigation plan requires external approvals and by whom.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: It is only necessary to have a procedure in place that relieves the SOL violation. It is unclear if a mitigation plan requires external approvals and by whom.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether

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these levels are appropriate.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

We are questioning whether voltage collapse reqts. should be acknowledged.

Confidentiality issues could be addressed

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments: Subtitles should be added to sectionalize the standard and a table of contents added.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Stuart Goza
Organization	TVA
Industry Segment #	1
Telephone	(423) 697-4191
E-mail	slgoza@tva.gov

Key to Industry Segment #'s:
1 – Trans. Owners
2 – RTO's, ISO's, RRC's
3 – LSE's
4 – TDU's
5 - Generators
6 - Brokers, Aggregators, and Marketers
7 - Large Electricity End Users
8 - Small Electricity Users
9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

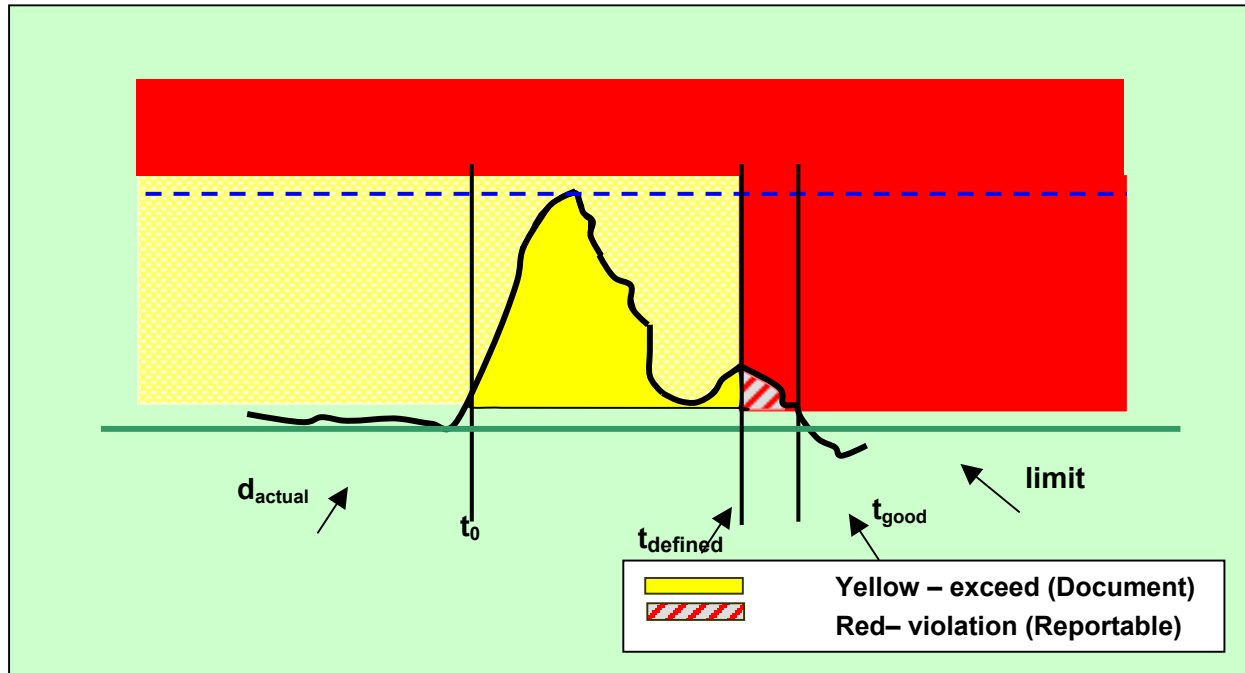
Do you agree?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: Assuming that the term “limit” is appropriately defined.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

NERC OC has a special task force, the Operating Limit Definition Task Force that is specially addressing definitions for System Operating Limit and Interconnected Reliability Limit. The results of this task force, if approved by NERC OC should be reflected in the terminology used in this standard.

1. Define uncontrolled separation
2. Define uncontrolled cascading
3. Define controlled separation
4. Define controlled cascading
5. Define instability
6. Define System Operating Limit
7. Define System Operating Limit Violation
8. Define Interconnected Reliability Limit
9. Define Interconnected Reliability Limit Violation
10. Facility Rating Methodology and Triggering Criteria for above conditions
11. RA, BA, IA roles need to be clarified

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA

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Generator

Planning Authority

Comments

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: The applicable term "system operating limit" needs clarification.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be some realistic acceptable period for failed telemetry before Level 1 violation occurs.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: The applicable term "system operating limit" needs clarification.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be some realistic acceptable period for failed telemetry before Level 1 violation occurs.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

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Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: Action taken must be coordinated with RA.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)

Name Ken Skroback
Organization Alabama Electric Cooperative
Industry Segment # 4
Telephone 334-427-3257
E-mail ken.skroback@powersouth.com

Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Groups Submitting Group Comments)

Name of Group:

Group Chair:

Chair Phone:

Chair Email:

List of Group Participants that Support These Comments:

Name	Company	Industry Segment #

1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: These assumptions work in the new NERC model but don't apply to a small utility (G & T) that is not separated and serves as its own control area. Since non separated utilities are prevented from receiving data from RA's, some of these studies are conducted by the RA using data provided by us to them.

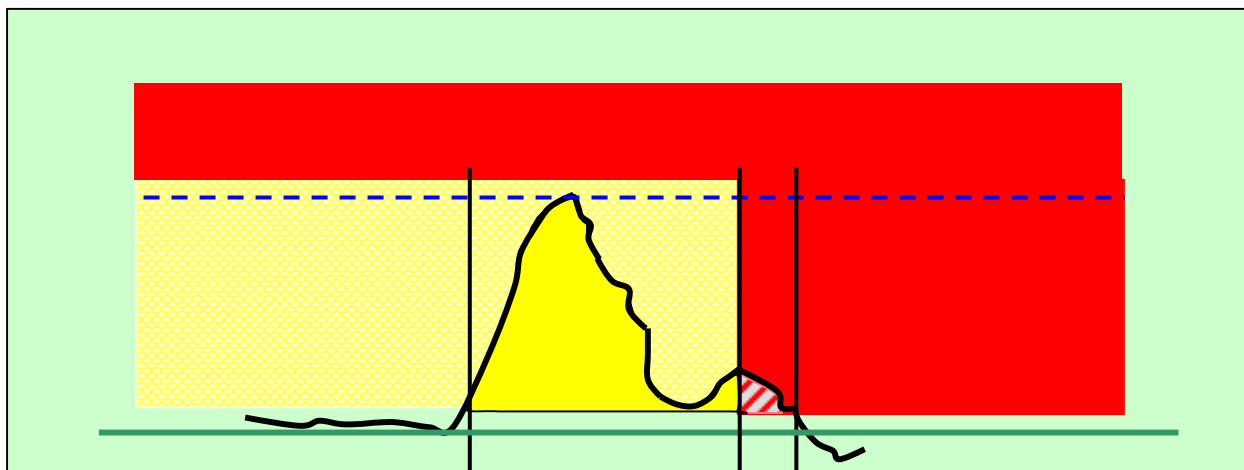
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

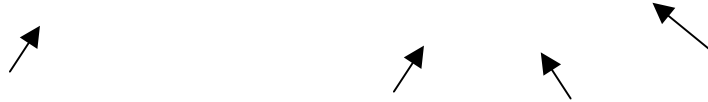
Yes

No

Comments:



Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: The above graph is unlabeled and I can't tell anything about it.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: The above graph is unlabeled and I can't tell anything about it.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: In Measures 1 & 2, if comparing real-time data to predefined limits in the EMS computer is acceptable, then I am in agreement. Otherwise I am not in agreement.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: I think that there needs to be some way to accommodate short term data outages such as a loss of a transducer, an RTU failure or a telecom failure without causing non-compliance. Maybe a loss of data up to 24 hours would be compliant while those exceeding 24 hours are not. At some point everyone will have some equipment failures.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: These assumptions work in the new NERC model but don't apply to a small utility (G & T) that is not separated and serves as its own control area. Since non separated utilities are prevented from receiving data from RA's, some of these studies are conducted by the RA using data provided by us to them. We currently don't receive data from other entities, although we provide data to them, and yet our study needs are being met. Since we have no current need for this data, we have no specifications and we have no record of correspondence. According to these measures we would be level 2 non-compliant, yet our study needs are met. I would like a statement in all three measures that states "as required" or "if needed".

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

² Reliability analyses includes both real time and operational planning analyses

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17. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: See # 16 above.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: In outcomes you say that the mitigation plan must be approved. Approved by whom?

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 1: Approved by whom?

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: If you had no instance of exceeding an operating limit, no documentation would exist and you would be Level 4 non-compliant.

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: "Data" should also include manually monitored values. That is the standard should allow a Reliability Coordinator/Transmission Operator/Generator to station an individual at a plant or substation to directly monitor values.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: This standard should define the minium type of data that is to be provided to the RA, similar to Policy 4B and Appendix 4B requirements today. Additionally, we disagree with the proposal that TOP functions need to be certified and stated such during the first comment period for the organizational SARs.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

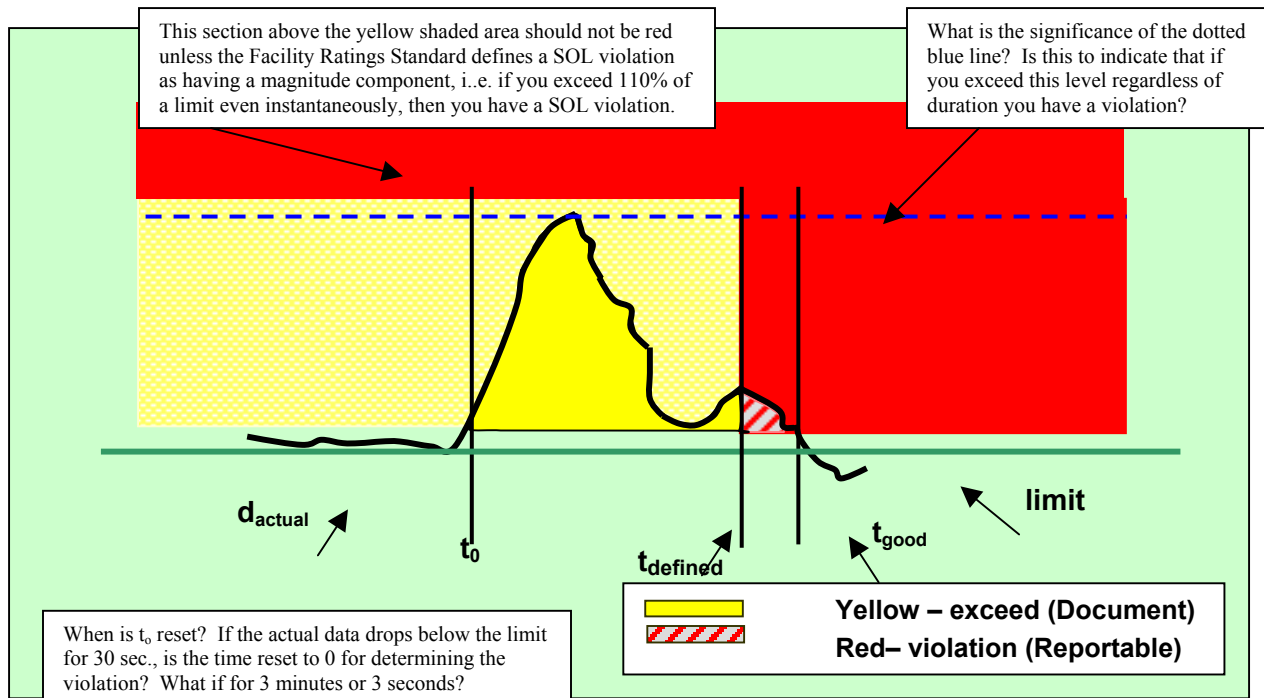
Do you agree?

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Yes

No

Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: See comments about the graph in the white comment boxes above on the graph. The graph is hard to understand and interpret.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: We agree that operating above the limit and to the right of T-defined is a reportable violation. We do not agree with the concept of having the Facility Ratings

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Standard adopt a magnitude componet to the definition of a SOL violation. We do not believe a momentary or short term deviation above the dotted blue line should be defined as a reportable event. Further, what should be defined as the "limit?" The goal is to prevent operating above a reliability limit, that if exceeded could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. So is the "limit" that value as determined by either the Planning Authority or the RA via their analysis or is it the value that the TOP provides and indicates that he is willing to load his equipment to, recognizing that some TOP's may specifiy a value that is less then true reliability limit?

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Identified problem

If possible, please provide us with a definition for each of these terms.

Identified problem: Does the term "identified problem" as used in this standard refer to a problem identified through reliability analysis, either for actual conditions or on a first contingency basis, that if it were to occur could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system or does it also include thermal overloads and voltage conditions that do not lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system?

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments The Generator is the best possible resource to provide the data. The Generator must have an interconnection agreement with a TOP, and said agreement should require the Generator to provide this information. Thus, the RA should be able to receive this type of information from the TOP. The PA should also have this information, which they may have received from the TOP or the Generator directly.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments Should be required via the TOP's interconnection agreement with the Generator.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the data associated with facilities that have defined the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system). and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are defined and available. in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor in real time facilities with system operating limits and compare these against the actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: We agree with the intent, but it is not written clearly. The RA should monitor, in real time, the data associated with the facilities that have defined system operating limits that if exceeded for a defined time limit (to be defined by the Facility Ratings Standard) could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Additionally, the RA should be required to monitor the system and facilities for the impact of the next contingency.

This standard requires the RA to only monitor the data associated with facilities that have defined operating limits identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. What about those thermal overloads and voltage conditions that do not result in catastrophic events? Should this standard ignore those thermal overloads and voltage conditions that will not result in instability or catastrophic events?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

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Comments: Loss of telemetry should not result in a non-compliance. Taking no action to correct the problem of missing data or to obtain the data via another means, such as requiring the TOP to station an operator at the station or plant to monitor and report the data until such time that telemetry is restored, should be a non-compliance. Additionally, the problem could be due to a telemetry problem at the TOP, so why would the RA be penalized? Also, the problem could be within the ISN, again not within the direct control of the RA. Define "surrogate value" and "surrogate data"

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: This requirement is duplicative to Requirement 1 for the RA. The standard should require that system conditions be monitored to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. The standard should require either the RA or the TOP to do this, but not require that they both do this. We prefer for the standard to require the RA perform this function, and that this is not a function that the RA can delegate to a TOP. The RA has a bigger picture, and can analysis the impact of one TOP on another TOP better then the TOP's can. Further, the RA has the real-time data required to monitor Regional conditions, that a TOP will not have.

This requirement should be re-worded to require that the TOP provide real time data, equipment limits, and model updates to their RA as specified by their RA.

This standard requires the TOP to only monitor the data associated with facilities that have defined operating limits identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. What about those thermal overloads and voltage conditions that do not result in catastrophic events? Should this standard ignore those thermal overloads and voltage conditions that will not result in instability or catastrophic events?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

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Yes

No

Comments: If the requirement was changed to the TOP providing real time data, equipment limits, and model updates to their RA as specified by their RA, then the levels of non-compliance could be:

1) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for up to 24 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).

2) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period of 24-36 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).

3) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period of 36-48 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).

4) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period greater than 48 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant), or

the TOP did not station personnel at the Station or Plant as directed by the RA to provide this data while telemetry was being restored, or

the TOP did not provide equipment limits as requested, or

The TOP did not provide modeling update information until after the energization of new facilities.

Note: the idea is that depending on system conditions, the RA may be able to rely on their previous operational planning analysis (next day analysis) for a day or so. However, if system conditions warrant, the RA should have the authority to direct the TOP to man the station and if the TOP refuses that should be considered a significant infraction.

Need to define "surrogate value" and "surrogate data".

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: There needs to be an industry minimum specification for the type of data required, similar to Appendix 4B "Electric System Security Data." This is required to ensure a minimum standard is set for the type and quality of reliability analysis that the RA's are to perform. Additionally, as worded this requirement is too vague and burdensome to the TOP. Basically, it implies that if the RA requests a piece of information, the TOP is to provide that information regardless of cost or actual benefit to the RA of having the data (though nowhere in this standard is there a requirement for them to explicitly do so). There should be a requirement that the data requested meet an industry reasonability standard for being classified as reliability related data. An update of Appendix 4B could accomplish this.

Once the above comment are addressed, then it is appropriate for the RA to specify and collect the data it needs, within the guidelines set forth in Appendix 4B, to maintain the models needed to support real time monitoring and reliability analysis.

There needs to be a requirement in this standard for the BA, IA, Generator and TOP to provide this data to the RA on an ongoing basis and the associated penalties for them if they do not. What good is it for the RA to specify the data they need if the those who have the data are

¹ Reliability analyses includes both real time and operational planning analyses

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not required to continually supply it? Yes, this requirement does specify that the RA is to notify the Compliance Monitor if these entities do not provide the data requested. And yes, Requirement #8 requires the TOP to provide data no less than 7 days prior to energization of new facilities. But where is the requirement that says they must continually provide the data?

Additionally, without an industry minimum standard similar in concept to Appendix 4B, how do we resolve the issue where a RA desires individual unit dispatch information but the Generator and BA only desire to provide zonal dispatch data?

Also, the requirement of the RA to "collect the data it needs" is too vague. Also, the requirement of the RA specifying when to supply data is too vague. The data supplied should be data that is mutually agreed upon between the RA and respective party along with the timing of the request. The respective party should not have to obtain the same hardware and software as RA.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: Unlike our position on Requirement #3, we support the vagueness of this requirement for the TOP. However, it needs to be reworded such as not to place a burden on the data providers. The data required by the TOP from the Generators will be specified in interconnection agreements between the TOP and Generator. These agreements are individually negotiated by each party, hence the Generator has the ability to minimize the burden of the data request and verify the need for the data via negotiations. Hence the support for keeping this requirement vague so as not to dictate the content of interconnection agreements. There may be an opportunity for an industry standard for the type of data to be provided by the BA and RA to the TOP, similar to Appendix 4B. This would help ensure that a TOP is only receiving data it really needs.

Additionally, without an industry minimum standard similar in concept to Appendix 4B, how do we resolve the issue where a TOP desires individual unit dispatch information but the Generator and BA only desire to provide zonal dispatch data?

Also, the requirement of the TOP to "collect the data it needs" is too vague. Also, the requirement of the TOP specifying when to supply data is too vague. The data supplied should be data that is mutually agreed upon between the TOP and respective party along with the timing

² Reliability analyses includes both real time and operational planning analyses

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of the request. The respective party should not have to obtain the same hardware and software as TOP.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: A RA should have to share data (modeling information) with their TOPs and any other RA that requests the information. The requirement needs to be clear that a TOP that desires data from an RA other than its own RA should ask their own RA for that data and then their RA would ask the other RA. The other RA (the RA with the data) then should have to notify and receive approval from the owner of the data (TOP or Generator) before providing the data for use by a non-associated TOP.

Why 7 days? If the intent is to ensure the requestor knows about the new facilities and can update their model before energization of the new facilities, then more than 7 days notice should be required. If the intent is to ensure the requestor is receiving the real-time data associated with the new facilities, then 7 days may be adequate.

Generally speaking, the TOP and Generator should be required to push data up to the RA, BA, and IA. The RA, BA, and IA should be required to specify the data they require within industry guidelines for reasonability.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable

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3. Not Applicable

4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: What if they provide the data, but it is 3 days prior to energization? Or they provide it 3 days after energization? Or 3 weeks after energization? What if they provide only partial data? Or only incorrect data? Are all these non-compliance events truly equal?

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: It is not clear whether the BA must supply this data to any requesting RA or just of the RA that has jurisdiction over the BA's area. We propose that the BA should only have to supply this information to his RA. Other RA's should contact the BA's RA for the information. Further, we suggest this requirement be changed similar to our comments provided on Requirement #2 under our response to question #13.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: What if they provide the data, but it is 3 days prior to energization? Or they provide it 3 days after energization? Or 3 weeks after energization? What if they provide only partial data? Or only incorrect data? Are all these non-compliance events truly equal?

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: It is not clear whether the IA must supply this data to any requesting RA or just of the RA that has jurisdiction over the IA's area. We propose that the IA should only have to supply this information to his RA. Other RA's should contact the IA's RA for the information.

We suggest this requirement be changed similar to our comments provided on Requirement #2 under our response to question #13.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: What if they provide the data, but it is 3 days prior to energization? Or they provide it 3 days after energization? Or 3 weeks after energization? What if they provide only partial data? Or only incorrect data? Are all these non-compliance events truly equal?

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: It is not clear whether the TOW must supply this data to any requesting RA or just of the RA that has jurisdiction over the TOW's area. We propose that the TOW should only have to supply this information to his RA. Other RA's should contact the TOW's RA for the information.

Why 7 days? If the intent is to ensure the requestor knows about the new facilities and can update their model before energization of the new facilities, then more than 7 days notice should be required. If the intent is to ensure the requestor is receiving the real-time data associated with the new facilities, then 7 days may be adequate.

We suggest this requirement be changed similar to our comments provided on Requirement #2 under our response to question #13.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: What if they provide the data, but it is 3 days prior to energization? Or they provide it 3 days after energization? Or 3 weeks after energization? What if they provide only partial data? Or only incorrect data? Are all these non-compliance events truly equal?

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: It is not clear whether the Generator Owner must supply this data to any requesting RA/TOP or just to the RA/TOP that has jurisdiction over the Generator. We propose that the Generator should only have to supply this information to his RA and TOP that he is connected to. Other RA's should contact the Generator Owner's RA for the information.

Why 7 days? If the intent is to ensure the requestor knows about the new facilities and can update their model before energization of the new facilities, then more than 7 days notice should be required. If the intent is to ensure the requestor is receiving the real-time data associated with the new facilities, then 7 days may be adequate.

We suggest this requirement be changed similar to our comments provided on Requirement #2 under our response to question #13.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: What if they provide the data, but it is 3 days prior to energization? Or they provide it 3 days after energization? Or 3 weeks after energization? What if they provide only partial data? Or only incorrect data? Are all these non-compliance events truly equal?

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: This requirement is too vague. How often should the RA perform a reliability analysis? How often should the RA request the program to run? Once a hour? Once a day? Once a week? Should the reliability analysis program be running every 5 minutes or every 10 minutes. Per this requirement, if the RA so chooses, he could perform the analysis every other day and argue that is enough. Is it? The requirement should be clear that there is an expectation that the RA is performing an operational planning analysis on a daily basis looking at next day to next week projected conditions. Further, the RA must have the capability to perform a reliability analysis on demand in order to identify problems either real-time or on a next contingency basis. Finally, the RA should have a reliability analysis program (state estimator) that runs (which means it solves) a minimum of every 10 minutes.

The Measure(s) section states the "program(s) run(s) when requested and identifies any problems that could cause instability", . . . etc. "Any problems" is pretty broad. Often, a reliability analysis program (state estimator and operator load flow) does not perform an analysis on all possible contingencies but rather only credible contingencies identified by the operator from other system performance appraisals performed by a Planning Authority, a Transmission Owner's Planning Section, RTO, or inter-regional study team. Do you really mean that the RA's analysis program must be able to perform an analysis for all possible single contingency events within their network model? Many real-time analysis programs do not do this, but most RA's also have access to off-line analysis programs that can meet this requirement. What is the intent here?

We would suggest the requirement be that the reliability analysis program have the ability to identify first contingency problems (problems that could cause instability, uncontrolled separation, etc.) based upon credible first contingency scenarios identified by performance appraisals conducted by the PA or TOW's Transmission Planning section.

Also, define the time horizon.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

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29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Non-compliance measures are too vague. What if the reliability analysis did not run when requested but ran within 5 or 10 minutes? What if the reliability analysis ran but the solution did not converge due to missing data, etc? There should be a different requirement and measure for real-time reliability analysis and operational planning analysis. Also, by the definition you provided, reliability analysis also includes system operator assessments. So by strict interpretation, as long as the RA's system operator assesses the situation, he would never be in violation of this requirement. As we said, this requirement and its measures are too vague.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: This is duplicative to Requirement #10. Why should the RA and TOP be required to perform the same analysis? We do not dispute that redundancy is good nor that many TOP's will perform this function. However, a NERC Reliability standard should not require the TOP to do this as this is clearly within the scope and function identified for the RA. The TOP should be clearly required to implement and follow the directives that an RA may issue due to their performance of a reliability analysis for their footprint. Further, we do not believe this is a function that the RA should be allowed to delegate to another party.

Define the time horizon.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Non-compliance measures are too vague. What if the reliability analysis did not run when requested but ran within 5 or 10 minutes? What if the reliability analysis ran but the solution did not converge due to missing data, etc? There should be a different requirement and measure for real-time reliability analysis and operational planning analysis. Also, by the definition you provided, reliability analysis also includes system operator assessments. So by strict interpretation, as long as the RA's system operator assesses the situation, he would never be in violation of this requirement. As we said, this requirement and its measures are too vague. Define the time horizon.

Should the concern be limited to those thermal overloads and voltage conditions that lead only to catastrophic events?

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take **and direct** actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken **or directed**.

Measure(s):

Documentation showing that actions were taken **or directed** to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken **or directed** to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: We agree with the overall intent of this requirement. However, additional language is required. It seems the only desired outcome of this requirement is that the RA have documentation. Shouldn't another desired outcome be that the system is operated reliably? Hence a key component missing is that of the RA directing the TOP or BA to take action, as the RA typically cannot take any actions other than to give directives.

Should the concern be limited to monitoring only those levels of thermal overloads and/or voltage conditions that lead to catastrophic events?

How does this requirement fit with the current NERC TLR process?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 2 states "no actions or incorrect actions were taken . . ." The determination that the RA's actions were incorrect would be by after the fact analysis performed by whom? Additionally, would it be necessary to determine whether the actions taken were due to gross negligence or due to an "honest" error or misinterpretation of the data? Would non-compliance sanctions differ based upon gross negligence vs. honest error?

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We are not sure what the difference between Level 2 and Level 3 is. Please clarify.

Some "what ifs": What if the system operating limit (SOL) was violated and thus the bulk transmission system was at risk but actual instability, uncontrolled separation, or cascading outages did not occur? What level of non-compliance should this be?

What if the SOL was violated, and the RA had directed the TOP and/or BA to take action but the TOP and/or BA did not take the action? As stated above, the RA is non-compliant. But, in reality the TOP and/or BA should be found non-compliant.

What if the SOL is violated, and the RA has directed the TOP and/or BA to take action, and they are in the midst of taking that action, but prior to the action being fully implemented, instability, uncontrolled separation or cascading outages occur? Is anyone non-compliant and if so at what level?

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses performed by either the RA or TOP, to take actions or follow directives of the RA as necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken or RA directives followed to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken or RA directives followed to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

- Yes
 No

Comments: We believe having the duplicity of Requirement #12 and #13 is dangerous and could impede system reliability. The NERC reliability standards need to be clear where the authority resides. Having duplicate requirements for the RA and the TOP implies neither has the final say. The RA should and must have the final say. This requirement for the TOP needs to be reworded to show their subordinate role to the RA. The TOP shall follow the directives of the RA in order to prevent/mitigate identified problems.

How does this requirement fit with the current NERC TLR process?

Should the concern be limited to monitoring only those levels of thermal overloads and/or voltage conditions that lead to catastrophic events?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Level 2 states "no actions or incorrect actions were taken . . ." The determination that the actions were incorrect would be by after the fact analysis performed by whom? Additionally, would it be necessary to determine whether the actions taken were due to gross negligence or due to an "honest" error or misinterpretation of the data or misinterpretation of

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the directive given by the RA? Would non-compliance sanctions differ based upon gross negligence vs. honest error?

We are not sure what the difference between Level 2 and Level 3 is. Please clarify.

Some "what ifs": What if the system operating limit (SOL) was violated and thus the bulk transmission system was at risk but actual instability, uncontrolled separation, or cascading outages did not occur? What level of non-compliance should this be?

What if the SOL was violated, and the RA had directed the TOP to take action but the TOP did not take the action? As stated above, this is either a level 2 or level 3 non-compliance. But, what if the RA directed the TOP and the BA to take action and the TOP took the action but the BA did not? The TOP is compliant and the BA should be found non-compliant. But, per the above, the TOP is non-compliant too because the SOL was violated.

What if the SOL is violated, and the RA has directed the TOP and/or BA to take action, and they are in the midst of taking that action, but prior to the action being fully implemented, instability, uncontrolled separation or cascading outages occur? Is anyone non-compliant and if so at what level?

What if monitoring and/or reliability analysis identified a problem, and the RA directs the TOP to take specific action, but the TOP does not take the action? Does it matter whether the SOL was violated or not?

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: We agree with the intent of this requirement. However, the language of the requirement needs to be modified. First, the wording in Version A and Version B are different. Which is correct? Version B explicitly states the plan must be approved in the requirement section, whereas version A only mentions the plan needing to be approved in the levels of non-compliance section. If the mitigation plan is to be approved, then by whom? We would hope by the Regions. Second, is it intended that this Plan replace the Region and/or RA Reliability Plans? Is this Plan just a section of those Plans? If so, isn't this part of the organizational requirement of the RA and thus covered elsewhere?

Third, how detailed do you want these plans? Are they just to state the congestion management procedures available to the RA, such as redispatch (LMP) and NERC TLR procedures? The requirement seems too vague as worded. Based upon what is expected to be included in reliability analysis under previous requirements in this document, it seems unreasonable to expect that all problems can have a one size fits all scenarios solution (mitigation plan). It does seem reasonable that the RA have a plan that states their congestion management practices and tools available. But that should be a requirement of be certified as a RA.

Define "mitigation plan".

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: However, you need to define in the requirements section who is to approve the

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plan and be more specific as to what the approval requirements are. That is just how detailed does this plan need to be. However, if the intent is that each identified credible contingency scenario has its own action plan, that seems unrealistic unless this is at a superficial highlevel and then what is the point of the plan?

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: The development of mitigation plans and strategies should be a joint effort between the RA and TOP. But the responsibility should reside with the RA. If both are responsible for developing and having plans, what is to prevent them from having vastly different plans for the same problem? Who determines which plan is implemented?

Should the concern be limited to thermal overloads and/or voltage conditions that only lead to catastrophic events?

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: However, you need to define in the requirements section who is to approve the plan and be more specific as to what the approval requirements are. That is just how detailed does this plan need to be. However, if the intent is that each identified credible contingency scenario has its own action plan, that seems unrealistic unless this is at a superficial highlevel and then what is the point of the plan?

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits (limits that if exceeded could lead to instability, etc.) and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: We agree with the intent of this requirement but believe modification to the language is required. Version A and B of this requirement differ slightly. Which is correct?

The requirement is not clear on whether the RA is to log and report just system operating limit (SOL) violations (i.e. the limit is violated for the time specified in the Facilities Rating SAR) of both violations and instances where the limit is exceed though a violation per the Facilities Rating SAR has not occurred. We believe the RA should complete a report for all SOL violations as defined in the Facilities Rating SAR, but momentary excursions should not have to be reported to the NERC CM.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

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No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: We agree with the intent, but for this requirement the language is too brief. How long must the TOP keep this data?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

1) There is no requirement that reliability data recipients have to be a signatory to the NERC Data Confidentiality agreement. This needs to be codified somewhere in the new standards.

2) This standard should define the minimum type of data that is to be provided to the RA, similar to Policy 4B and Appendix 4B requirements today.

3) There should be a requirement that the TOP, BA, IA, PA, and Generators provide data on a continuing basis as requested (or as per the defined minimum data requirements suggested in #2 above) and needed by the RA to perform their reliability analysis.

4) There needs to be a definition of operational planning analysis and a requirement that sets the minimum standards of scope and frequency for such analysis.

5) There needs to be a requirement for the minimum frequency of performance of real-time analysis.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: We prefer neither of the versions. Neither version allows the reader to easily know what each Authority or entity is responsible for. Version B comes the closest.

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47. If you have comments on the format of the standard, please share them with us.

Comments: As one reviewer stated, "this draft standard is worse then reading the Federal Register."

48. Please list any other comments you may have in the space below.

Comments: Obviously, we believe this draft is not yet ready for going to ballot. Of course, that wasn't your intent at this point. However, we question the wisdom of this standard ever going to ballot before the Facilities Rating Standard is also developed and ready to go to ballot. We would suggest that this standard should be developed the Facility Rating Standard. Otherwise assumptions regarding limits and violations made by this standard may turn out to be vastly different then the intent of the Facility Ratings Standard.

We appreciate the hard work of the standards drafting team and look forward to the next draft.

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: We agree however would urge the terms used in the standards be explicitly defined and quantified.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: We recommend substituting Reliability Analysis with operational planning analysis and real time assessment as appropriate to short term or long term studies. Also the term real time needs to be explicitly defined. Although the footnote appearing on page one of Version A defines Real time it is still unclear if this is restricted to data extracted from the Energy Management Systems.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: The certification process for the RA/TOP is in itself an insufficient vehicle to attain correct modeling data. It is felt that the submission of data reflecting changes to the system may reduce documentation but may unnecessarily restrict the RA's to a potentially incomplete data collection process. For example, in some cases the RA may choose to create study models as new base cases on a seasonal basis. Therefore, the exchange of information has to be handled differently to ensure all parties receive the information in a timely manner such that the operating models in adjoining regions do not lead to different results.

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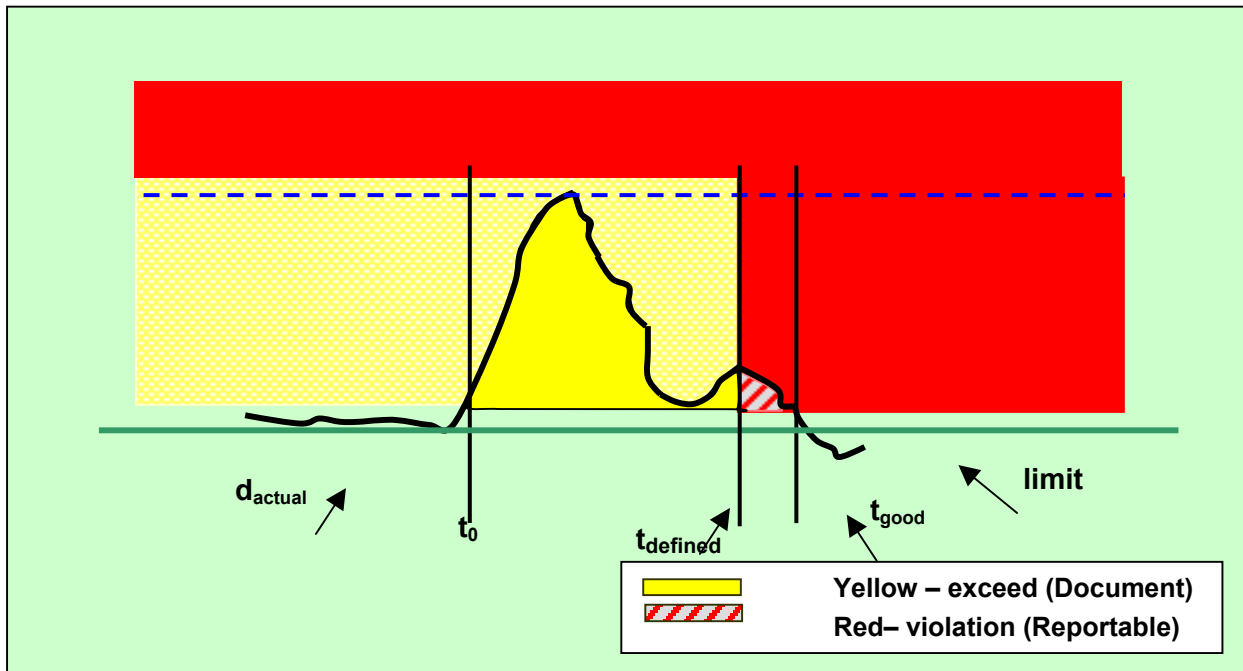
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

Yes

No

Comments: Yes, however "Industry Accepted Format" must not be overly perscrutive and must not preclude mutually agreed upon data exchange methods between adjoining areas. Also how is it proposed to handle "proprietary data"?



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating

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Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Real Time

Self-Certification

Compliance Reset Period

Instability

Cascading Outages

Uncontrolled Separation

If possible, please provide us with a definition for each of these terms.

The Compliance reset period should be defined as 12 months without a violation from the time of the last violation.

Either provide a definition with "actual telemetered data" or replace it with "real time data", throughout this document.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: The levels of non-compliance should not be gauged by the availability of telemetered data but should be measured by the RA's ability to monitor System Operating limits.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 4 is the most important metric for this Requirement and we feel that Level 1, 2 and 3 are unnecessary.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: The levels of non-compliance should not be gauged by the availability of telemetered data but should be measured by the RA's ability to monitor System Operating limits. Please see our comments under item # 44 (Regional and Interconnection Differences).

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Level 4 is the most important metric for this Requirement and we feel that Level 1, 2 and 3 are unnecessary.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: A form needs to be developed to allow the different authorities to submit this data.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

¹ Reliability analyses includes both real time and operational planning analyses

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Comments: See previous comment on the term "industry accepted format". We also felt that compliance monitoring doesn't belong in the requirement section of this document but may reside in another document pertaining to compliance.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: A form needs to be developed to allow the different authorities to submit this data. Please see our comments under item # 44 (Regional and Interconnection Differences).

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See previous comment on the term "industry accepted format". We also felt that

² Reliability analyses includes both real time and operational planning analyses

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compliance monitoring doesn't belong in the requirement section of this document but may reside in another document pertaining to compliance.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: We are unsure what type of analysis would be required here and it is unclear how often it would need to be performed. From a reliability standpoint, operational planning studies would be done that considers adequacy and system outages. We agree with the requirement but there is insufficient detail to measure compliance

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: We are unsure what type of analysis would be required here and it is unclear how often it would need to be performed. From a reliability standpoint, operational planning studies would be done that considers adequacy and system outages. We agree with the requirement but there is insufficient detail to measure compliance. Please see our comments under item # 44 (Regional and Interconnection Differences).

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: It should be noted that prevention and mitigation are actions that may be undertaken in two different timeframes.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

Further clarification is requested regarding the difference between violation and limit violation.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: It should be noted that prevention and mitigation are actions that may be undertaken in two different timeframes. Please see our comments under item # 44 (Regional and Interconnection Differences).

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

Further clarification is requested regarding the difference between violation and limit violation.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: It is only necessary to have a procedure in place that relieves the SOL violation. It is unclear if a mitigation plan requires external approvals and by whom.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: It is only necessary to have a procedure in place that relieves the SOL violation. It is unclear if a mitigation plan requires external approvals and by whom. Please see our comments under item # 44 (Regional and Interconnection Differences).

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether

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these levels are appropriate.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved. Please see our comments under item # 44 (Regional and Interconnection Differences).

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: There are differences in some Areas. For example, in Ontario the IMO is solely responsible to determine operating limits and to direct the operation of the IMO-Controlled Grid within these limits. The Transmission owners/operators operate their respective systems under the IMO's direction. They only provide the IMO with equipment ratings which the IMO must respect. The transmission operators do not determine operating limits or monitor/report their compliance.

If yes, please identify what you feel should be added.

The standard should reflect jurisdictional differences in the responsibilities assigned to the RA and TOP in some areas.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

We are questioning whether voltage collapse and underfrequency loadshedding reqts.

Confidentiality issues could be addressed

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments: Subtitles should be added to sectionalize the standard and a table of contents added.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Lee Westbrook
Organization	Oncor
Industry Segment #	1
Telephone	214-743-6823
E-mail	LWESTBROOK@ONCORGRO
UP.COM	

- Key to Industry Segment #'s:**
- 1 – Trans. Owners
 - 2 – RTO's, ISO's, RRC's
 - 3 – LSE's
 - 4 – TDU's
 - 5 - Generators
 - 6 - Brokers, Aggregators, and Marketers
 - 7 - Large Electricity End Users
 - 8 - Small Electricity Users
 - 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

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STD Commenter Information (For Groups Submitting Group Comments)

Name of Group:

Group Chair:

Chair Phone:

Chair Email:

List of Group Participants that Support These Comments:

Name	Company	Industry Segment #

1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

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Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

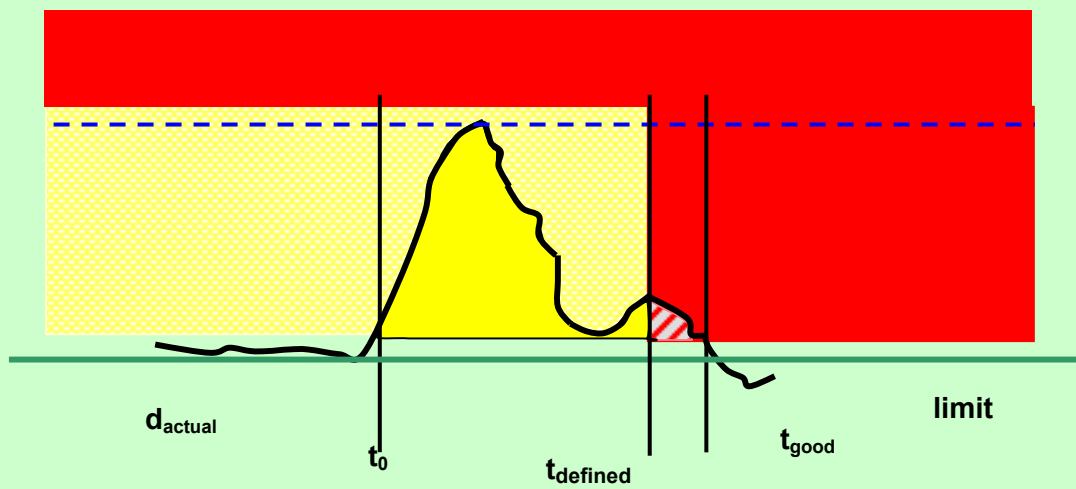
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

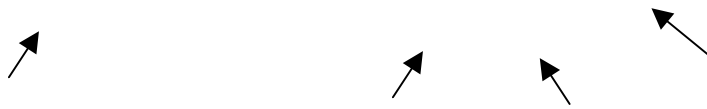
Yes

No

Comments:



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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: Graph needs more information to clarify question.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9.

10. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

11. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Since limits may specify both magnitude and duration, real time data may need to be integrated to compare to limits. That should be made more apparent here or in the definition of data.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

12. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

13. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: See Requirement 1 comment.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

14. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

15. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

16. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

17. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

18. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

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Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

19. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

20. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

21. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

22. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

23. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

24. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

25. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

26. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

27. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

28. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

29. Do you agree with this requirement?

Yes

No

Comments: Do the analyses include the calculation of operating limits?

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

30. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

31. Do you agree with this requirement?

Yes

No

Comments: See Requirement 10.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

32. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

33. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

34. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

35. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

36. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

37. Do you agree with this requirement?

Yes

No

Comments: Emergency operations plans may not be documented to the same degree as plans prepared pre-contingency.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

38. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

39. Do you agree with this requirement?

Yes

No

Comments: Words should match those in Requirement 14.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

40. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

41. Do you agree with this requirement?

Yes

No

Comments: Who specifies the "specified period of time"?

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

42. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

43. Do you agree with this requirement?

Yes

No

Comments: Words should more closely match Requirement 16.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

44. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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45. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

47. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

48. If you have comments on the format of the standard, please share them with us.

Comments:

49. Please list any other comments you may have in the space below.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)

Name Robert E. Reed, Transmission Subcommittee Chairman

Organization Transmissison Subcommittee

Industry Segment #

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Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: <i>Transmission Subcommittee</i>		Group Chair: <i>Robert E. Reed</i> Chair Phone: 610 666-8862 Chair Email: reed@pjm.com
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Dan Cooper</i>	<i>Michigan Public Power Agency</i>	
<i>Ken Donohoo</i>	<i>ERCOT</i>	
<i>Michael Gildea</i>	<i>Duke-Energy, NA</i>	
<i>Francis Halpin</i>	<i>Bonneville Power Administration</i>	
<i>Tom Mallinger</i>	<i>Midwest ISO</i>	
<i>Darrick Moe</i>	<i>Western Area Power Administration</i>	
<i>Scott Moore</i>	<i>American Electric Power</i>	
<i>Bill Slater</i>	<i>Florida Power Corporation</i>	
<i>Tom Stuchlik</i>	<i>Western Resources</i>	
<i>Joseph Stylinger</i>	<i>Southern Co.</i>	
<i>David Thorne</i>	<i>D. H. Thorne Consultants, Inc.</i>	
<i>Robert Waldele</i>	<i>New York ISO</i>	
<i>John Ahr</i>	<i>Alleghany Power Systems</i>	
<i>Susan Morris</i>	<i>SERC</i>	
<i>Ed Pfeiffer</i>	<i>Ameren</i>	
<i>Ry Palmieri</i>	<i>ECAR</i>	

1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: 1) The TS agrees with the term "data" used, but it should be explicitly defined and quantified. 2) Consideration should be given to establishing a minimum performance or accuracy and frequency criteria for the "calculated values" and accuracy and frequency criteria

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of telemetered data values. 3) Footnotes should be repeated at least once for each requirement to remind the reader of the definition.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: 1) RAs should be required to run (on-line/real-time) automated studies and off-line operational planning studies to identify and/or forecast bulk reliability concerns, but TOPs should not be subject to such requirements. The standard does not read as though manual analysis is sufficient, as it references "analysis tool" availability and then makes mention of "reliability analysis did not run" in multiple locations. This verbiage indicates that manual reliability analysis is not sufficient. Therefore, modifications should be made to alter this requirement for the TOPs. Expecting every TOP to acquire and maintain on-line reliability analysis tools is too expensive and too obtrusive without adequate reliability benefit to justify such a universal requirement - particularly since the RAs will be required to use such tools anyway. 2) What is the scope of the term "real time"? The footnote appearing on pg.1 of Version A defines "real time" but it is still not clear if this is restricted to data extracted from the Energy Management Systems, and does a reference to "real-time" conceptually imply data, or processes, or both? 3) What is the definition and scope of "operational planning analysis"? 4) It seems the Reliability Analysis definition above is an attempt to conceal the fact that many existing entities performing Reliability Authority Functions do not have a working state estimator. The RA should explain what type of analysis tool(s), the frequency, the type of input data (off-line or real-time), etc. that is used to perform "reliability analysis". 4) Why are the analysis requirements of the RA and the TOP identical? If this is true, why do we need an RA and a TOP? 5) Why isn't there a standard for the TOP to provide telemetered data? There should be some type of performance standard established to assess the accuracy of telemetered data.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: 1) The focus is only on providing specifications for the data required. It appears to be unclear that there is no requirement to actually provide the real-time data. For example, the TOPs are required to specify and require data, but they do not appear to be required to actually PROVIDE data to RAs. 2) The certification process for the RA/TOP is not the proper means to obtain correct modeling data. It may be appropriate for real-time metering data, but much of the static data for

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system modelling and analysis is the same as the planning function. It should be consistent with those modelling requirements also. 3) The standard does not distinctly identify the areas of responsibility between the Reliability Authority and the Transmission Operator. Application of the standard to multiple parties ("Authorities") should clearly delineate the primary source of responsibility and ownership of any data, information, control and responsibility. What follows in the Standard are many requirements that duplicate the RA and TOP responsibilities -- who has the primary responsibility/requirement/authority for each? 4) The only provision in this standard is that data on new facilities must be provided seven days before it is energized. If operational planning studies have a scope of greater than seven days (possibly one year), then a seven-day notice is inadequate for these studies. There appears to be a requirement to have a standard that requires entities to provide the base data used to populate the models, in addition to the requirement to provide information on changes. 5) All assumptions should be listed in the Standard's document.

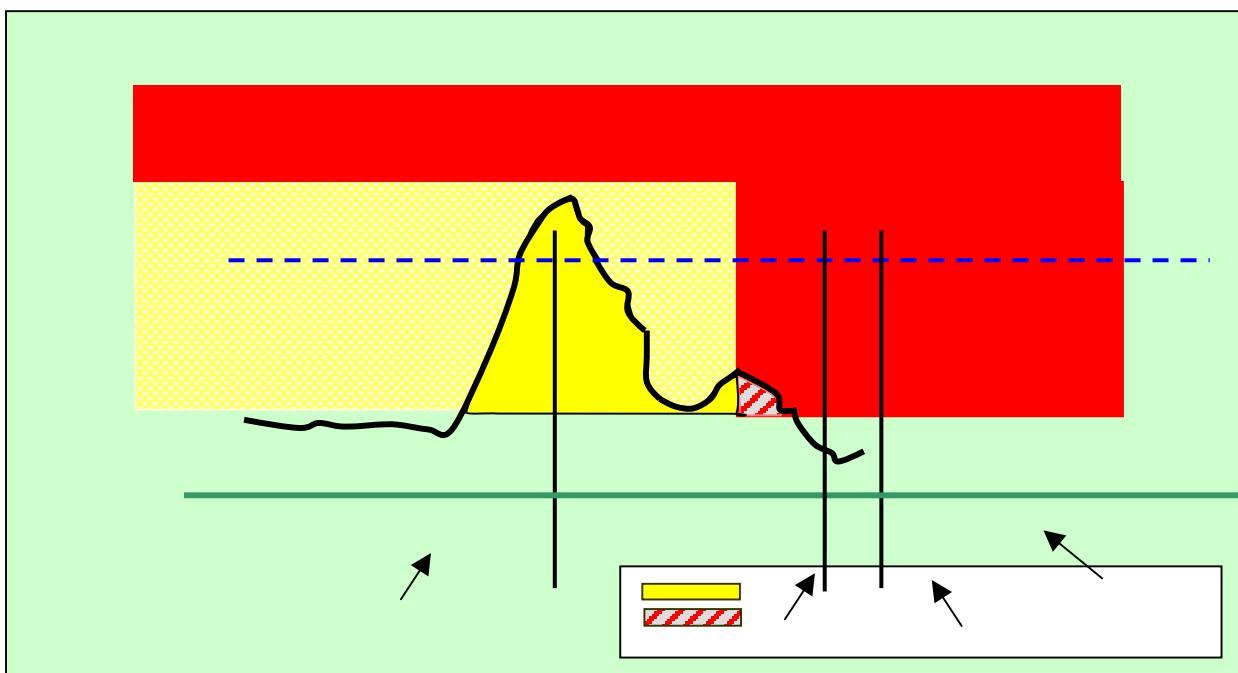
4. The draft standard uses the term "Industry Accepted Format" to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

Yes

No

Comments: ...as long as this does not lead to the creation of another "industry accepted format" or require a significant change from the way data has routinely been exchanged in the past. (typically using PSS/e or PSLF powerflow raw-data formats for representational data, etc.)



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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: The TS recommends waiting until the OLDTF work is complete.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: The TS recommends waiting until the OLDTF work is complete.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Real Time

Self-Certification

Instability

Cascading Outages

Uncontrolled Separation

Actual telemetered data, or real-time data?

Real-Time Monitoring

Frequency of Real-Time Monitoring

System Operator Limits

If possible, please provide us with a definition for each of these terms.

System operator limits as defined is appropriate for RAs, but should not be defined as provided for TOPs. For TOPs, system operating limits should not include only those ~~limits which~~ limits, which have been identified as leading to cascading outages, instability, or uncontrolled separation. This is a major issue in terms of the scope. As conceived, this standard does not result in any entity assuring that bulk power system is operating within limits. It only results in operating within those limits for which violations result in instability/cascading outage risk. That is inappropriate. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby requiring consistent monitoring and adherence, should be covered by this standard.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments Are you referring to Generator Owner or Generator Operator or both above?

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

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- RA
- BA
- Generator
- Planning Authority

Comments 1) What do you mean by "system analysis"? 2) What type of "system analysis" is the TOP supposed to perform? 3) Are you referring to Generator Owner or Generator Operator or both above?

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: 1) The levels of non-compliance should not be determined by the availability of telemetered data; compliance should be based on the RA's capability to monitor System Operating Limits. 2) What do you mean by "actual real-time data"? Does it mean something different than "real-time data"? For consistency, the word actual should be removed from Measure 2.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: 1) Levels 1 and 2 imply that use of substitute data is unacceptable. 2) The only important level of non-compliance listed above is level 4. 3) There seems to be no penalty for failing to identify a System Operating Limit. If an entity identifies limits and then does not monitor them, then the entity is subject to a greater penalty than an entity who fails to identify the limits. Need a process to identify SOLs and to assess system conditions, both real-time and forecast. The measures should be: a) do you have the data; b) do you have the limits; c) are you monitoring the data. 4) What does "surrogate value" mean? Levels 1 and 2 should be rewritten to consider the suggested measures listed in these comments.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: 1) Whose responsibility is it to ". . . monitor (in real time) the system operating limits . . ." - the RA or the TOP? 2) Whose compliance is more significant than the other? 3) This requirement should be for the TOP to provide to the RA telemetry data and to monitor system limits and OSLs under the direction of the RA.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: 1) Levels 1 and 2 imply that use of substitute data is unacceptable. 2) The only important level of non-compliance listed above is level 4. 3) Loss of telemetry for short periods is an unfortunate but fairly routine matter - with all that telemetry equipment in the field, it cannot be expected that none of it ever has down-time. 4) If this requirement is changed as suggested above, then there should be some type of measures defined to capture the need for a certain level of observe-ability and accuracy of the telemetry data. The TOP should also have a list of identified limits on the SCADA system that is being monitored on a periodic basis. The TOP should also have a list of "RA assigned" Operating Security Limits identified by the RA and instructions on mitigation actions to perform if the OSL is reached and/or violated.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: The TS believes the collection and processing of the data requirements could be a RA data management responsibility.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

¹ Reliability analyses includes both real time and operational planning analyses

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Comments: Regardless of format, either the RA receives the data specified, or it does not. Shouldn't the RA show that the data is being used in the analysis?

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: The TS suggests measuring the TOP non-compliance at gathering and providing the data to the RA, rather than a redundant requirement for the TOP to collect the data.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: 1) Either the TOP provided the data, or it did not provide the data to the RA. 2)

² Reliability analyses includes both real time and operational planning analyses

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Compliance monitoring does not belong in the requirement section of this document. It may belong in another document pertaining to compliance.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: The TS does not believe the language is clear enough. For example some members interpreted the requirement to read differently than others (as follows) - A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: In general there should be at least two levels of non-compliance identified. Why does the data have to be requested? How often should an entity request data? Should data requests be a ~~one-time~~one-time declaration in writing asking for data on new facilities? Is this requirement needed since there is not enough detail to assess non-compliance?

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: The TS does not believe the language is clear enough. See number 18 comments, it is not apparent the types of data being referred to in this requirement. Clarification is needed to specify the required data - from testing, real-time operation, engineering specifications, manufacturer's specifications, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The TS believes that until numbers 18 and 20 are resolved (clarification of language) the levels of non-compliance cannot be determined.

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: The TS suggest clarification language is necessary. Same as 18, 20, 21 above.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See 22.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: See 22.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See 22.

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: The TS suggest clarification language is necessary. Same as 18, 20, 21, 22 above.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: 1) See 26. 2) As an example of the need for clarification language, the ". . . no less than 7 days prior . . ." was challenged by members with the following comment: In a market-based system, there are aspects of adding a new market entity that need considerably more than days-to-months lead time; for compliance a generator might be prohibited from operating commercially until all data and interconnection issues are resolved.

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: 1) The TS suggests clarification language to identify the type of analysis required. Also, define the periodicity of the analysis - how often it needs to be performed. 2) From a reliability standpoint, operational planning studies are recommended to be performed to determine the adequacy during system outages. We agree with the requirement but there is insufficient detail to measure compliance

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: 1) The TS believes that number 28 needs to be addressed before non-compliance can be determined. 2) Based on the ~~time-frame~~time frames specified, the ~~levels of non-compliance implies~~levels of non-compliance imply different compliance than the requirement does. Clarification should consider: Is the requirement based on real-time operating concerns, or is it based on a short-term reliability/scheduling concern?

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: The TS believes this requirement should be eliminated - Requirement 10 (at the RA level) is adequate. See Question number 2, and the TS response.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See 30.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: The TS questions the combination of "prevention" and "mitigation" in the same requirement/measure unless the language is clear to eliminate potential ambiguity. Prevention and mitigation are actions that may be undertaken in two different timeframes. Without clear language, the requirement/measure should be separated into two separate requirements to address the prevention and mitigation as separate issues.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 32 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: 1) See 32. 2) How are conflicting results from an RAs analysis vs. the TOPs analysis to be resolved?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 34 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: 1) The TS believes the requirement can be enhanced. See the following comments as examples: 2) It should be clarified that these plans need to include system intact and applicable prior-outage conditions. 3) It is only necessary to have a procedure in place that relieves the SOL violation. If a mitigation plan requires external approvals, then by whom? Will security constrained generation redispatch be an acceptable prevention or mitigation action?

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 36 needs to be addressed and resolved before the levels of non-compliance can be determined..

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: 1) The TS recommends clarification to specify these plans need to include system intact and applicable prior-outage conditions. 2) System Operating Limit should be in capital letters to be consistent with the definition on page 2. 3) There may be potential conflict between the RA and TOP in prevention/mitigation actions. 4) Is this requirement necessary?

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but ~~wasn't~~ wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 38 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: The TS recommends delaying this requirement until the OLDTF collaborates with the SDT to define "operating limits". These new limit definitions must also go through the standards process before formal implementation.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Question 40 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: See 40.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 42 needs to be addressed and resolved before the levels of non-compliance can be determined.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

The work of the OLDTF has shown that there are differences in the interpretation and response to limit determinations and violations among the interconnections and Regions. The Standard and its compliance measurements should not dictate whether a particular RA should operate in a predictive or a responsive mode (i.e., take action in advance to prevent an overload based on predictive analysis, or take steps to mitigate an actual overload only on occurrence)

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

1) The OLDTF has definitions that need to be considered prior to finalizing this standard.

2) Operating limits that should be secured should include voltage collapse transfer limits in addition to equipment ratings violations.

3) Confidentiality of data needs to be addressed. Transmission line flows and generator outputs have commercial implications in real-time market-based systems. The Standard should recognize this concern.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: The TS believes Version B is written more clearly than Version A and is easier to follow. The TS believes that the entities that are responsible for complying with this standard will find it easier to determine what is required of them for compliance. In addition, the levels of non-compliance are spelled out more clearly; there is less room for interpretation.

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47. If you have comments on the format of the standard, please share them with us.

Comments:

1) Subtitles should be added to sectionalize the standard and a table of contents added.

2) Jim Byrd presented Functional model issues to the NERC PC/OC/MIC on March 19, 2003 in Birmingham and stated that one of the major issues with the Functional model is that the functions are perceived to be organizations. Jim stated that efforts will be made to clarify that the functions are not organizations. Since all references to functions, such as, RA, BA, PA, TOP, etc. are listed in standards documents as "entities" for convenience; for example, sentences begin: "The RA shall..." instead of "Entities responsible for RA functions shall...", then all NERC standards documents should contain a clarification statement explaining that the functions are not organizations and that all references to the functions should be interpreted as "entities responsible for --- function".

3) All assumptions should be listed in the standards document.

4) Footnotes of definitions should be repeated for each requirement write-up.

5) There should always be at least two levels of non-compliance defined.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)

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Industry Segment # 2

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Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial
Regulatory or other Govt. Entities

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: Standard should allow requesting of whatever data is needed at any time to run operational studies.

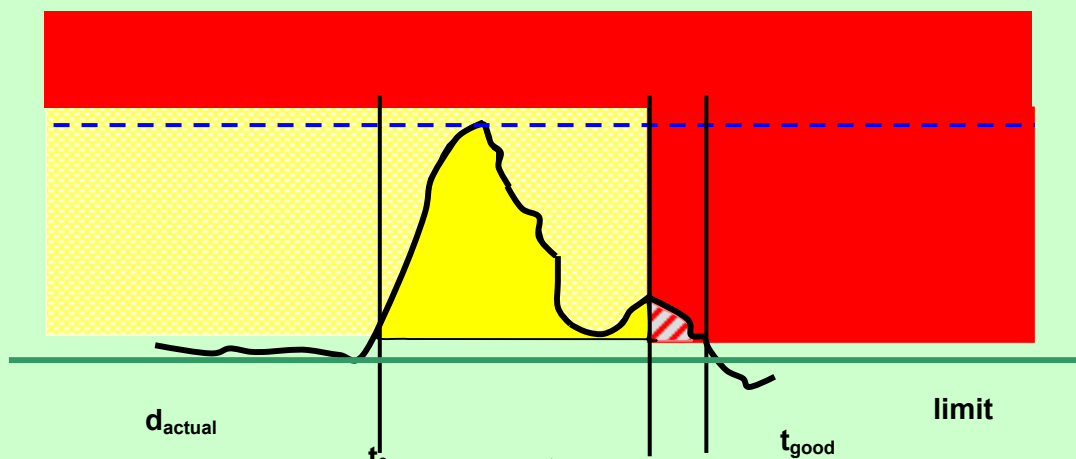
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

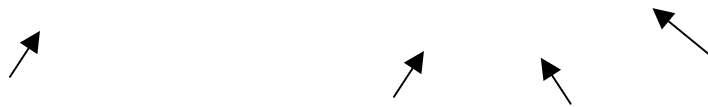
Yes

No

Comments: An “Industry Accepted Format” does not exist



Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments Generator Owner or Operator should provide the unit characteristics and the real time data

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments Generator Owner or Operator should provide the unit characteristics and the real time data

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels 1 & 2. The RA has no control as to availability of telemetered data. This responsibility should rest with the providing entity. The RA should monitor the data, be able to monitor the availability of telemetered data and be able to measure availability of data.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: The entity who owned the information should provide it to who needs it. The RA may be constrained due to confidentiality agreements from passing the data on to entities other than another RA.

The RA should be able to request data at any time, not just prior to energization of new facilities.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: This requirement should be for any data request, not just for new or revised facilities.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: Should pertain to any facilities at any time with the timeframe defined by the RA according to its needs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should pertain to all facilities

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: This requirement should be for any data request, not just for new or revised facilities. Should pertain to all facilities. The timeframe should be specified by the RA in accordance with its own needs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should pertain to all facilities

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: This requirement should be for any data request, not just for new or revised facilities. Time frame to be specified by the RA according to its own needs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should pertain to all facilities

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: The time to provide data should be specified by the RA since everyone has different time requirement to make EMS & model changes. Should pertain to all facilities, not just new facilities.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should pertain to all facilities

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: The RA should perform reliability analyses on the current operating system only to determine if the system is operating in a secure mode. This means running N-1, N-2 or credible contingency studies.

The requirement should also include running an analysis program to mesh with the Measures and Outcome(s) requirement to run a reliability analysis program

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Compliance levels should measure the recognition that there was a need to perform analysis, and whether the analysis was or wasn't done.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: The RA should direct rather than take action.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels of non-compliance should measure whether or not the RA identified a reliability problem, were actions (correct or incorrect) taken, and did a reportable violation occur

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: The requirement does not require an approved mitigation plan. Who is responsible for approving the mitigation plan?

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: TOP shall provide data as specified.

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Dilip Mahendra
Organization	SMUD
Industry Segment #	
Telephone	916-732-6180
E-mail	dmahend@smud.org

Key to Industry Segment #'s:
1 – Trans. Owners
2 – RTO's, ISO's, RRC's
3 – LSE's
4 – TDU's
5 - Generators
6 - Brokers, Aggregators, and Marketers
7 - Large Electricity End Users
8 - Small Electricity Users
9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

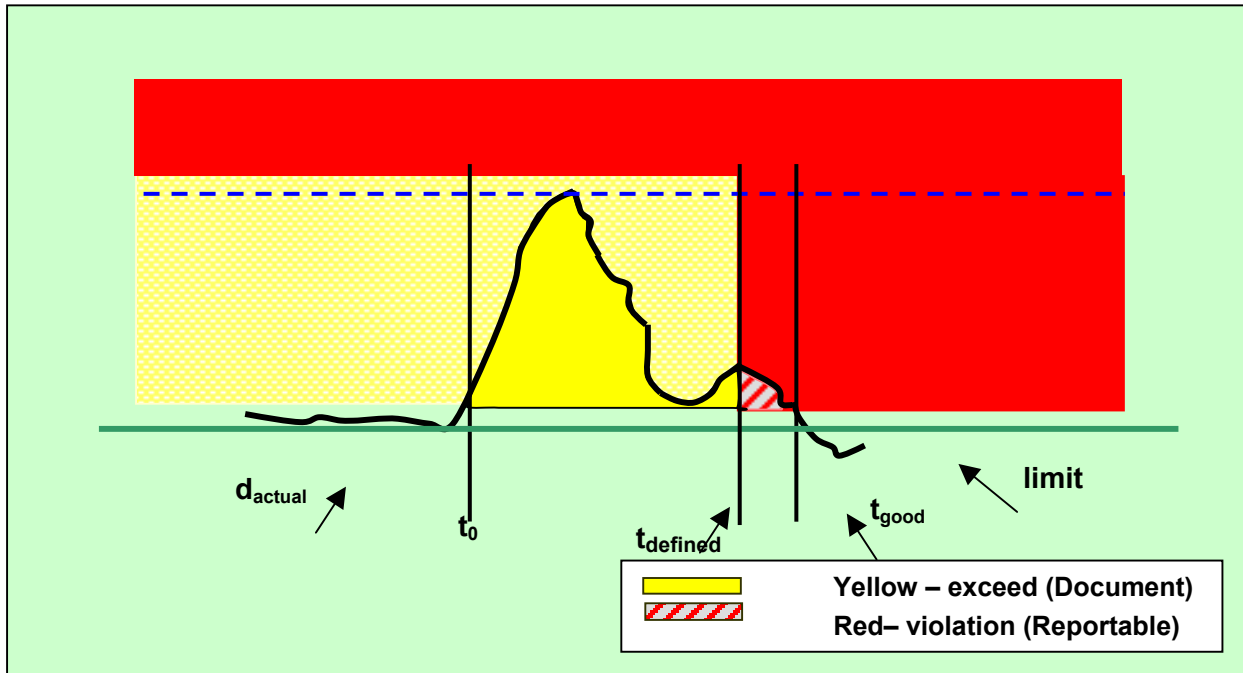
Do you agree?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: Provided it is for a facility that is covered by the purpose of this standard. That is, if it is violating an operating limit established to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments: Sanctions should be applied only if a regulatory body governing the entity in non-compliance endorses the sanctions table.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Lee Xanthakos
Organization	SCE&G
Industry Segment #	1
Telephone	803-217-6058
E-mail	pxanthakos@scana.com

- Key to Industry Segment #'s:**
- 1 – Trans. Owners
 - 2 – RTO's, ISO's, RRC's
 - 3 – LSE's
 - 4 – TDU's
 - 5 - Generators
 - 6 - Brokers, Aggregators, and Marketers
 - 7 - Large Electricity End Users
 - 8 - Small Electricity Users
 - 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes
 No

Comments: “data” is a subjective term that should be better defined

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Yes

No

Comments: I agree that the term should include both manual and automated process, however the standard did not read that way to me. Perhaps the drafting team should better clarify their intent in the standard

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: Assumptions should be avoided, and drafting team should better clarify their intent in the document.

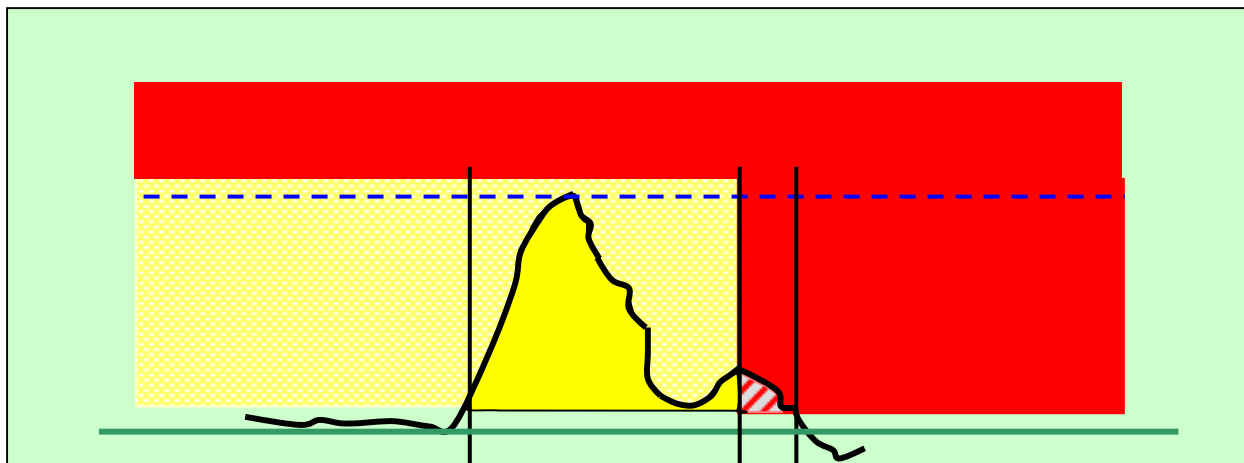
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

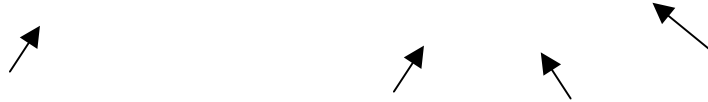
Yes

No

Comments:



Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels of non-compliance should focus on what the RA does with the data not if it gets it or not.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: I agree with requirements, but I do not agree that it written exactly the same as the RAs. As a matter of fact, my opinion of the entire draft is that a distinction is made between the requiremnt of an RA and a TOP. Why have two entities required doing the same thing?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels of non-compliance should focus on what the TOP does with the data not if it gets it or not.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There is not compliance level measuring what the RA actually does with the

¹ Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

data. Also, the RA should only be measured on things they can affect. For example, would it be the RA's fault if on of its TOPs submitted data that was technically inaccurate or incomplete?

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There is not compliance level measuring what the TOP actually does with the data. Also, the TOPs should only be measured on things they can affect. For example, would it

² Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

be the TOP's fault if on of its BAs submitted data that was technically inaccurate or incomplete?

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: I agree with the requirement, but I question the value of making a hard 7-day rule. Why not 14 days or 21 days???

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Seems like there should be more than one level of non-compliance. What if the data was incomplete for example? Shouldn't merit some non-compliance penalty?

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: See comments for Requirement 5

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments for requirement 5

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: See comments for requirement 5

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments for requirement 5

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: See comments for requirement 5

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments for requirement 5

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: See comments for requirement 5

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments for requirement 5

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: See comment for question 12.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

- Yes
- No

Comments: We do not agree with this requirement. Furthermore we do not agree that NERC has the authority to force such a requirement onto the RAs. As written, the requirement essentially bestows functional control to the RA. This is something the South Carolina PSC has expressly ruled is the responsibility of the TSP and no one else. Actual and functional control of the transmission system is the responsibility of SCE&G's transmission department. This responsibility can not and will not be transferred to any other entity without expressed approval of the Public Service Commission. This approval has not been given nor is it expected to be given, regardless of SCE&G's desires

We recommend that drafting team should instead write a standard that requires the RA to notify the TSP of a imminent situation and provide assistance, if requested, so the TSP can implement their own mitigation plans.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

- Yes
- No

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Comments: NERC does not have the authority to require RAs to take action on TSP equipment for which they are not allowed to have functional control

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: See comments for questions 32. State laws may prohibit RAs from taking action on a TOPs system

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be some level of compliance for how well an approved plan was followed.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: Why would the TOP do this if the RA is already doing it in Requirement 16?
There is not need for the duplication.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Albert M. DiCaprio
Organization	MAAC
Industry Segment #	2
Telephone	610-666-8854
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Key to Industry Segment #'s:
1 – Trans. Owners
2 – RTO's, ISO's, RRC's
3 – LSE's
4 – TDU's
5 - Generators
6 - Brokers, Aggregators, and Marketers
7 - Large Electricity End Users
8 - Small Electricity Users
9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:		Group Chair:
		Chair Phone:
		Chair Email:
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

Yes

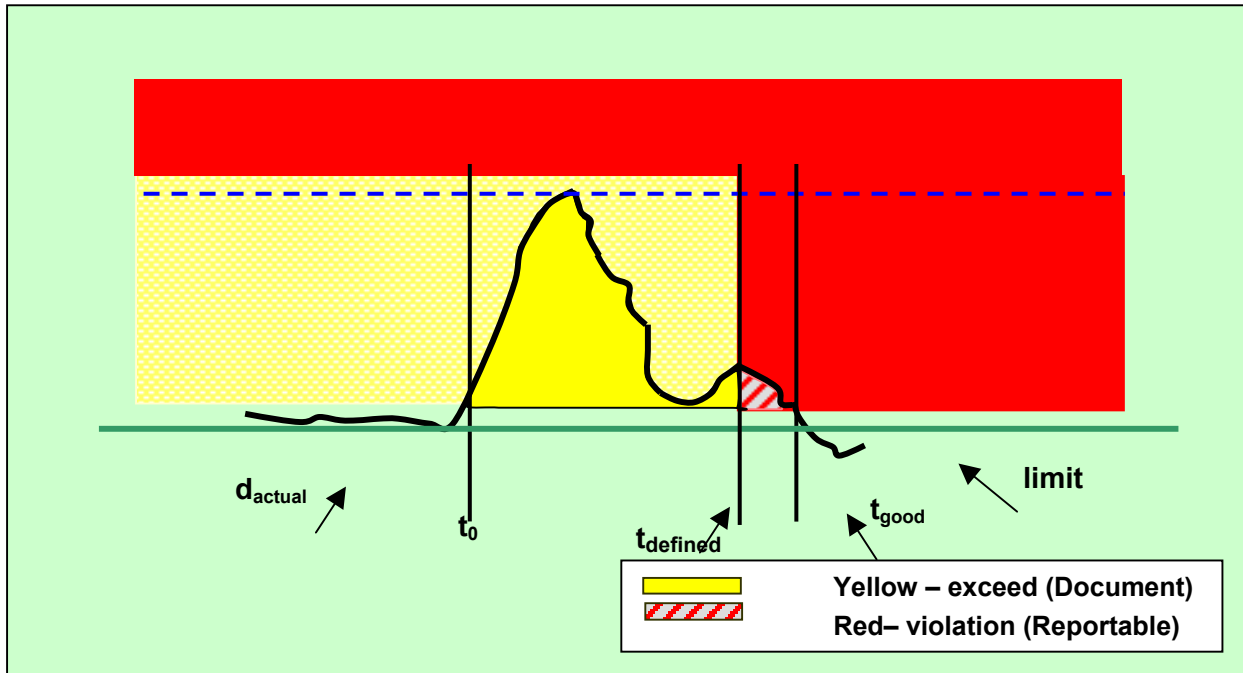
No

Comments: The definition could lead some to believe that there is a pre-defined format somewhere. A more acceptable phrase would be “mutually agreeable format”. That way if a new

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

format were to arise that the RA wants to use and the data suppliers are willing to use, then NERC should not care what format is used.

As long as the definition recognizes the agreement between the consenting parties to mean 'Industry accepted' then there is no issue.



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

- Yes
 No

Comments: The idea of ‘documenting’ near-misses and not treating them as non-compliance is a good one. It will ensure that the industry can access such information if needed (for example if there is a question of too many near misses).

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

- Yes
 No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments Generator Operator is the responsible party.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments In the framework of the Functional Model, the TOP in its role as TOP does not have the responsibility for doing system analysis. To the extent that the TOP does local analysis that information must come from the RA (unless the TOP has its own agreements to access that data.)

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The measure has to do with monitoring while the non-compliance has to do with data quality. Monitoring compliance is difficult – how does one say that the system is not being monitored correctly. However, the measures focus on whether or not the monitor is using good data.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments to #11

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The requirements for computing limits comes from the SAR on Facility Ratings et al. This Standard focuses on response and on Model maintenance (in real-time environment)

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: See response to # 9

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: This Matrix is for data handling not for operations.

² Reliability analyses includes both real time and operational planning analyses

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Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: By allowing the RA to define the data required for its needs properly places the responsibility on the RA and avoids the problem of developing a standard that includes identifying specific data.

The need to exclude the TOP is still noted.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: The Functional Model only assigns the BA responsibility for Balancing not for facility data.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: IA is not involved with facility data – (only Interchange Schedules)

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: As noted above the TOP is not responsible for system analysis (which is the only way it could identify an OSL). Therefore in the Reliability Standards process that responsibility still lies with the RA. The RA can provide the data to the TOP as needed or as agreed to (e.g. they can agree that the TOP gets the data directly)

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: As written this requirement mandates the RA to take action (while at the same time leaving the procedures, services and processes up to the individual RAs).

The requirement also allows preventive and well as corrective actions to be taken.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There is a definite need here to recognize that NO ACTION “can be” a definitive activity (ergo not to be held as a non-compliance indicator)

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: This is an RA responsibility. Of course the RA may assign that function to the TOP (but in the end the RA is still the responsible party)

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Again, this is an RA responsibility.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: This requirement is a documentation requirement not a filing requirement (i.e. Level 1 is inappropriate)

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: The TOP may do this for the RA, but it need not be a TOP function.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)

Name	Richard J. Kafka
Organization	Potomac Electric Power Company
Industry Segment #	1
Telephone	301 469-5274
E-mail	rjkafka@pepco.com

Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Groups Submitting Group Comments)

Name of Group:

Group Chair:

Chair Phone:

Chair Email:

List of Group Participants that Support These Comments:

Name	Company	Industry Segment #

1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

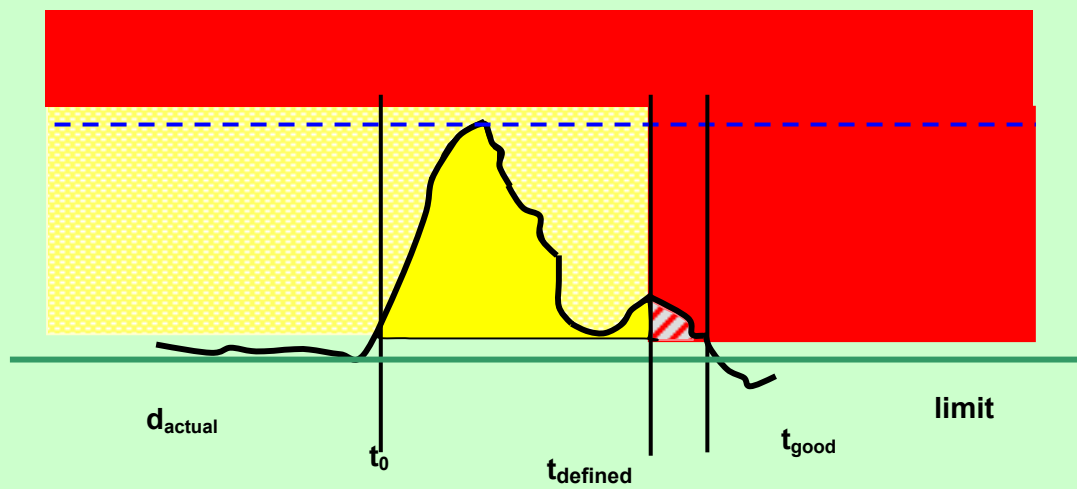
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

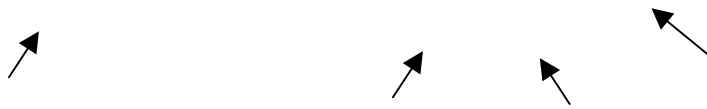
Yes

No

Comments:



Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: This is a RA responsibility, although TOP will physically monitor actual conditions.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: In many cases, state estimator data are an adequate replacement for telemetered data.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: RA builds and maintains models

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: BA is not responsible for facility data

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: IA is responsible for interchange information, not facility data

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: This is an RA responsibility

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: This is an RA responsibility

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: This is an RA responsibility

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: This is self monitoring by the TOP

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)

Name	Tom Petrich
Organization	Pacific Gas and Electric Company
Industry Segment #	1
Telephone	(415) 973-6491
E-mail	tcp3@pge.com

Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:		Group Chair: Chair Phone: Chair Email:
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Chifong Thomas</i>	<i>Pacific Gas and Electric Co.</i>	<i>1</i>
<i>Ben Morris</i>	<i>Pacific Gas and Electric Co.</i>	<i>1</i>
<i>Bob Stuart</i>	<i>Pacific Gas and Electric Co.</i>	<i>1</i>
<i>Joe Seabrook</i>	<i>Puget Sound Energy, Inc.</i>	<i>1</i>

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes
 No

Comments: There are other references to “actual” data. (For example, Requirement 1 states “The RA shall monitor real time system operating limits and compare these against actual data associated with those limits”.) If “actual” data is the same as “real” data, then we suggest using the term “actual” data throughout the standard to avoid confusion in the future.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

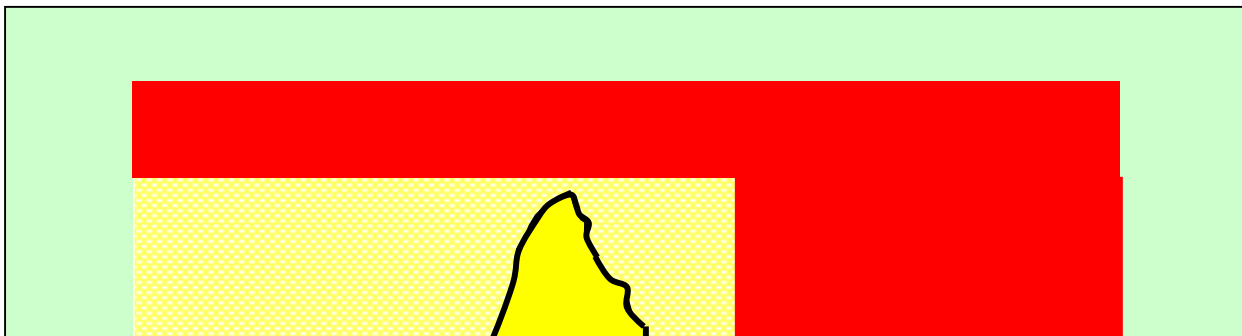
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

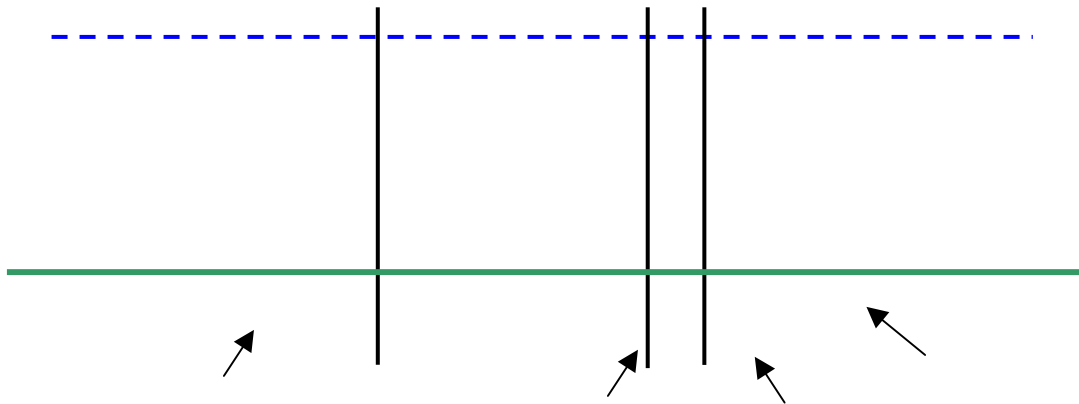
Yes

No

Comments: Since there are numerous formats that can be qualified as “Industry Accepted Formats”, the entities performing the related RA, BA, TOP, IA, TOW, Generator functions should agree on a set of common formats to be used for data exchange to avoid unnecessary duplication of work.



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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: Some clarification is needed. The System Operating Limit itself can be defined with a magnitude and a time limit, so the magnitude limit can be a step function. e.g., the allowable loading magnitude “X” for a 1-hour limit would be higher than the allowable loading “Y” for a 4-hour limit, so there should be a violation only if the yellow portion is above “X” for more than 1 hour, or above “Y” for more than 4 hours.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: See comment in response to Question #5. Also, it is not clear what is the basis of the “red zone” above the “yellow” zone in the time period $t_0 - t_{\text{defined}}$

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments It would also be acceptable for the generator to provide identical data concurrently to the TOP and the RA. Our recommendation is to minimize any possibility of the TOP and the RA having conflicting data.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: The “requirement”, “measures(s)” and “outcome(s)” should state that the RA monitor *and take corrective action to ensure the system is operated within the system operating limits.* The RA System operating limits can also be established to avoid violating thermal facility limits affecting safety and reliability. Specifying that the system operating limits as “identified to prevent instability, uncontrolled separation or cascading outages” may be interpreted to exclude operating within limits based on other factors such as thermal overload.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Non-compliance Levels 1 and 2 need to include a lower limit before the non-compliance level would be in effect. For example, as written, the RA function would be in Level 1 violation if it misses 1 second of actual telemetered data. This does not seem reasonable. We suggest adding the phrase “and no proper corrective action was taken” to the end of both Levels 1 and 2. Thus:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours *and no proper corrective action was taken*
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours *and no proper corrective action was taken*

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: System operating limits can also be established to avoid violating thermal facility limits. Specifying that the system operating limits as “identified to prevent instability, uncontrolled separation or cascading outages” may be interpreted to exclude operating within limits based on other factors such as thermal overload.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Non-compliance Levels 1 and 2 need to include a lower limit before the non-compliance level would be in effect. For example, as written, the TOP function would be in Level 1 violation if it misses 1 second of actual telemetered data. This does not seem reasonable. We suggest adding the phrase “and no proper corrective action was taken” to the end of both Levels 1 and 2. Thus:

3. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours *and no proper corrective action was taken*
4. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours *and no proper corrective action was taken*

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: There needs to be agreement among the various functions on the exact acceptable format and timing for data transfer to void unnecessary duplication of work. The generator function should provide data to the RA through the TOP, instead of to both the RA and the TOP, to avoid unintended inconsistency. Please add “the format and timing for data transfer should be coordinated and agreed to by the impacted parties”.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

¹ Reliability analyses includes both real time and operational planning analyses

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Yes

No

Comments: Non-compliance Level 1 states “data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)”. It is not clear why the RA should be held in non-compliance for “technically inaccurate or incomplete” data submitted by other functions. We suggest deleting “or some data technically inaccurate or incomplete”.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: There needs to be agreement among the various functions on the exact acceptable format and timing for data transfer to avoid unnecessary duplication of work. The generator function should provide data to the RA through the TOP, instead of to both the RA and the TOP, to avoid unintended inconsistency. Please add "the format and timing for data transfer should be coordinated and agreed to by the impacted parties".

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

² Reliability analyses includes both real time and operational planning analyses

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No

1. **Comments:** : Non-compliance Level 1 states “data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)”. It is not clear why the TOP should be held in non-compliance for “technically inaccurate or incomplete” data submitted by other functions. We suggest deleting “or some data technically inaccurate or incomplete”.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: “Data” is open-ended. If the “data” refer to system parameters, then they would have to be calculated data and not “actual” or “state estimated”. If the requirement is for test data, some of them may not be available until after energization. We suggest adding qualifications to limit the universe of “data” required.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: We are not sure what kind of data the BA function can provide before energization. An example would be helpful.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: We are not sure what kind of data the IA function can provide before energization. An example would be helpful.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: Please modify the sentence to read:

“The RA shall run reliability analysis program(s) and ~~the program(s)~~ shall identify *potential* problems, *if any*, that could cause *generation and transmission facility overloads*, instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.” We should not lose sight of the responsibility of the RA to take proper actions to correct the problems that it has identified.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: These levels of non-compliance are not clear to us. Who is “requesting” the reliability analysis and what is the basis? How does this relate to the actual operation of the system? In WECC, we require the system be adjusted within 20 minutes to reduce flows on stability limited paths to be within their operational limits for the system conditions. We would expect the reliability analysis be requested and performed well in advance so the RA is prepared to monitor and take corrective actions.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: Please modify the sentence to read:

“The TOP shall run reliability analysis program(s) and ~~the program(s)~~ shall identify *potential* problems, *if any*, that could cause *generation and transmission facility overloads*, instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.” We should not lose sight of the responsibility of the TOP to take proper actions to correct the problems that it has identified.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: : These levels of non-compliance are not clear to us. Who is “requesting” the reliability analysis and what is the basis? How does this relate to the actual operation of the system? In WECC, we require the system be adjusted within 20 minutes to reduce flows on stability limited paths to be within their operational limits for the system conditions. We would expect the reliability analysis be requested and performed well in advance so the RA is prepared to monitor and take corrective actions.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Non-compliance Levels 2 and 3 do not seem reasonable. For example, during emergencies, the correct action may be “no action”. In any case, If no limit violation has occurred, what is the basis of the “non-compliance”. They should be changed to “not applicable”.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: The TOP needs to take necessary actions to prevent equipment overloads as well.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Non-compliance Levels 2 and 3 do not seem reasonable. For example, during emergencies, the correct action may be “no action”. In any case, If no limit violation occurred, what is the basis of the “non-compliance”. They should be changed to “not applicable”.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: In the sentence, “The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits.” We may want to replace the word “approved” with “finalized”. If not, we suggest identifying the approving party. Otherwise, it could introduce confusion in implementation.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We need to specify the party that would do the approving.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: In the sentence, "The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits." We may want to replace the word "approved" with "finalized". If not, we suggest identifying the approving party. Otherwise, it could introduce confusion in implementation.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We need to specify the party that would do the approving.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: The 72 hours time requirement to file a complete report may not provide allowance for emergencies.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: The requirement for producing supporting document and corresponding unlogged violation seems too prescriptive and do not make allowance for emergencies, when keeping the system together should be more important than filling out forms.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: Manitoba Hydro agrees that this Standard has to address the requirement for updating the data in a timely fashion. However we believe that the requirement for “base data” is not and should not be addressed in the certification process. The requirement for the “base data” should be included in this Standard. The process to be defined by the RA and TOP to obtain data for reliability analysis purposes should address both “base data” and changes to this data to ensure accuracy of the models used for reliability analysis.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

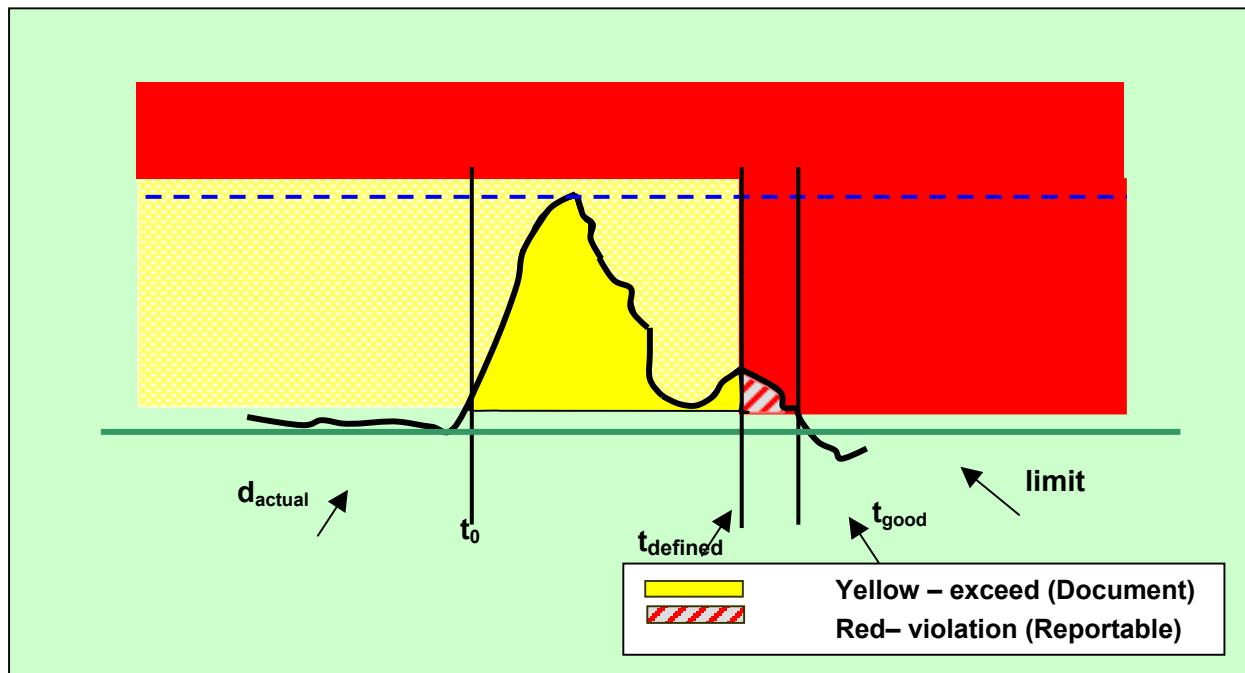
Do you agree?

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Yes

No

Comments: Manitoba Hydro believes that as much as possible the appropriate Standard should specify what the acceptable format should be. For parameters where this is not possible the term “Industry Accepted Format” should be acceptable.



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: Based on the above graph the terminology used is correct. However Manitoba Hydro believes that the concept of operation related to operating limits and reportable violations should be defined by the Standard Drafting Team for Standard “Determine Facility Ratings, System Operating Limits, and Transfer Capabilities”. The concepts that they develop should then be integrated in this Standard

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

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Yes

No

Comments: see comment for #5.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments: Manitoba Hydro believes that the generator owner must provide this data since as owner of the asset he is responsible for protecting that asset and establishing ratings consistent with the risk level he is willing to assume.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments: see comment in #8

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Manitoba Hydro believes that the performance requirement objective is correct; however there are instances where real time data is not readily available and may have to be inferred or synthesized from other measurements. The measures section above should be modified to reflect this reality.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Manitoba Hydro agrees with using a set of levels to define non-compliance. However the set of limits defined here may not be appropriate and should be related to the risk on the system. In the event of loss of data, perhaps a lower set of limits should be applied till the regular data can be re-established.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: see comment in #10.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: see comment in #11.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: Manitoba Hydro agrees with the requirement to provide data to the RA. The accuracy of this data is not referenced here. Generally data should be accurate. There are all sorts of reasons why it may not be accurate and a process should be in place to keep improving the data and having a means to identify bad or questionable data.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

¹ Reliability analyses includes both real time and operational planning analyses

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No

Comments: Manitoba Hydro believes that the industry accepted format should be more clearly defined in some Standard to ensure minimum acceptable level of quality.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: same comment as in #14 but for TOP.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: same comment as in #15.

² Reliability analyses includes both real time and operational planning analyses

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Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Manitoba Hydro questions the 7 day period specified. Some processes would require significantly more lead time than that while some require less; how was the 7 day time chosen. The issue is one of supplying data on a timely basis. Isn't that covered by another requirement.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: see comment for #18.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: see comment in #18.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: see comment in #18

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: see comment in #18.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: Manitoba Hydro agrees with the use of online reliability analysis programs to identify possible instability, uncontrolled separation or cascading outages that could adversely impact the reliability of the bulk transmission system. The analysis performed will identify the possibility of problems occurring but will not determine the secure operating limit for the system. Steps should then be taken by the RA to put the system in an operating mode to ensure that Operating Security Limits will not be violated.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Manitoba Hydro believes that the times referenced are artificial and don't relate to system need and risk. Time frames should be determined based on system need and the relative risk posed to the system of not having these tools operational.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: see comment for #28

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: see comment for #29.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The issue should not be one of violation not occurring because the contingencies considered didn't happen. The issue should be one of risk and recognition of the impacts of the contingencies such that operation must be to limits based on these contingencies.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: Manitoba Hydro believes that TOP actions should be subject to RA oversight and approval for any actions that are identified as possibly adversely impacting the reliability of the bulk transmission system.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: see comment for #33

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: Manitoba Hydro is concerned about the amount of data that may be required to be collected for this requirement. Perhaps there needs to be some sampling process or investigation only when multiple violations occur or when a system disturbance results

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: see comment for #40

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: Manitoba Hydro believes that the requirements for monitoring system operating limits in real time in a thermally constrained network and for a stability constrained network are significantly different. The time limitations in a stability constrained network does not allow the RA or TOP to use online reliability analysis tools in the same way as they can be used in a thermally constrained tight network. The RA in a stability constrained network will be required to operate to predefined operating limits which have been determined from extensive operational planning analysis. The RA in a thermally constrained network can operate to real time defined limits because of the much slower system reaction time.

If yes, please identify what you feel should be added.

Requirement 1 and Requirement 2 must be worded in a manner to ensure that both the RA and TOP for thermally constrained and for stability constrained networks can meet the requirements of the Standard.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)	
Name	Ed Riley
Organization	California ISO
Industry Segment #	2
Telephone	(916) 351-4463
E-mail	eriley@caiso.com

Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:		Group Chair:
		Chair Phone:
		Chair Email:
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

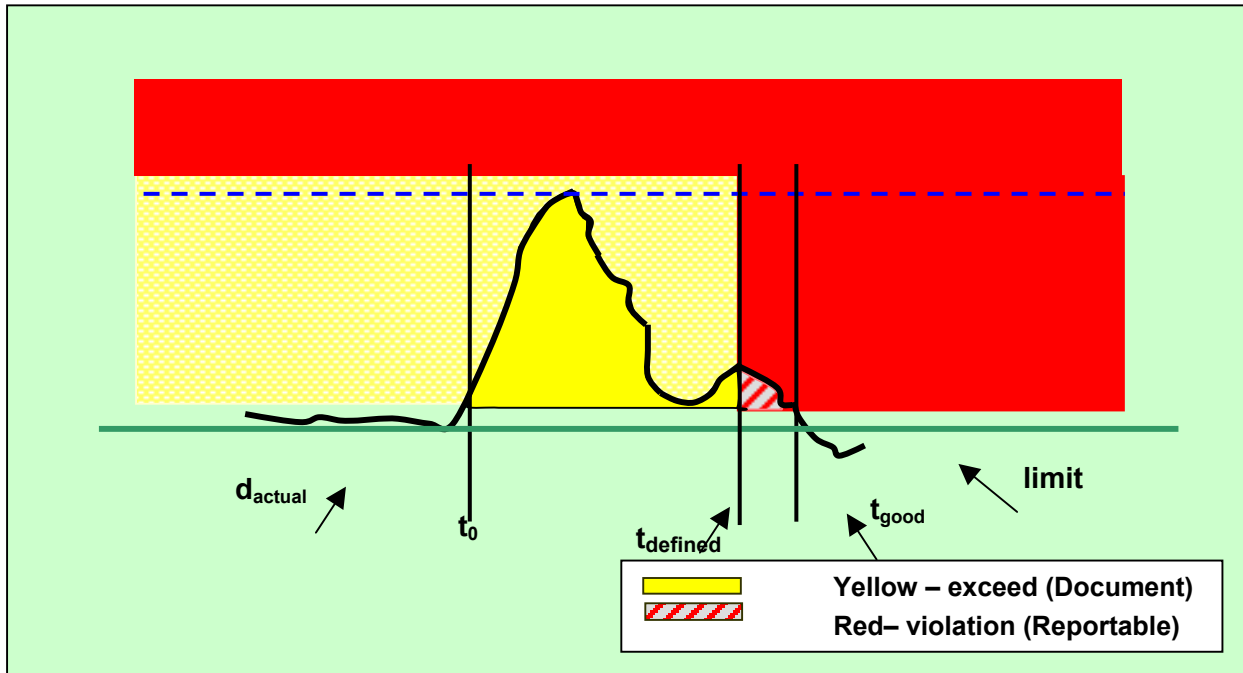
Do you agree?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: The CAISO agrees with this requirement as long as the term "Documentable" refers to the entities' internal process of documentation.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Problem versus violation

If possible, please provide us with a definition for each of these terms.

Problem = exceed limits but not for defined time, there for it is not a reportable event.

Violation = exceed limit for defined time, there for it is a reportable event.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed seperately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: Wording in the second paragraph of the Requirements should be changed to read "The RA shall specify when the data is to be supplied"

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

¹ Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Comments: The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. There for this section should be removed from the

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Standard.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: The text of the Requirement should be changed to read "The RA shall specify data to be provided"

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed seperately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed seperately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed seperately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed seperately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: The types of reports that would be needed to identify "problems that could cause instability, uncontrolled separation or cascading outages.." are not done quickly, making it difficult to perform them in real-time. The wording of the Requirement sounds like these would be required in real-time, and it is not possible for a RA to complete them in this time-frame.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: See response to question #28.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed seperately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: See response to #28

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. There for this section should be removed from the Standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: See response to question #28.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. There for this section should be removed from the Standard.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: IF the Requirement and Outcome are modified so that where reference is made to a "mitigation plan", it says "mitigation plan/procedure".

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. There for this section should be removed from the Standard.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: See response to question #36.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed seperately from the Standards themselves. There for this section should be removed from the Standard.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: The Requirement should be amended to add the following on the end: "..and action taken to return the system to normal status".

Also, although the CAISO is recommending removal of the compliance portions, it would like to take the opportunity to suggest a more practical and reasonable time frame for the requirement on filing a report in the event of a violation. The CIASO would like to suggest that in place of "72 hours" that the body that establishes the compliance requirements consider changing the requirement to "5 business days".

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

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Comments: The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. There for this section should be removed from the Standard.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. There for this section should be removed from the Standard.

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: The usage and definition of the term "violation" varies between the different entities.

If yes, please identify what you feel should be added.

See definitions offered in comments on question #7.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: See comment below - question #47.

47. If you have comments on the format of the standard, please share them with us.

Comments: The CAISO would like to suggest a third option for the organization of the Standard, dividing the requirements up by function, such as Reliability Authority, Transmission Operator, etc., rather than by task.

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STD Commenter Information (For Individual Commenters)	
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Key to Industry Segment #'s:
1 – Trans. Owners
2 – RTO's, ISO's, RRC's
3 – LSE's
4 – TDU's
5 - Generators
6 - Brokers, Aggregators, and Marketers
7 - Large Electricity End Users
8 - Small Electricity Users
9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Bill Reinke</i>	<i>SERC</i>	<i>2</i>
<i>Dick Worthen</i>	<i>SERC</i>	<i>2</i>
<i>Sam Stryker</i>	<i>Fayetteville PWC</i>	<i>3, 4, & 5</i>
<i>John Troha</i>	<i>SERC</i>	<i>2</i>
<i>George Bartlett</i>	<i>Entergy Transmission</i>	<i>1</i>
<i>Ed Davis</i>	<i>Entergy Transmission</i>	<i>1</i>
<i>Tim Ponseti</i>	<i>Entergy Transmission</i>	<i>1</i>
<i>Jim Case</i>	<i>Entergy Transmission</i>	<i>2</i>
<i>Lee Xanthakos</i>	<i>SCE&G System Control</i>	<i>1</i>
<i>John Stickley</i>	<i>AECI</i>	<i>1</i>

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1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: The term "data" should be explicitly defined and quantified. Consideration should be given to establishing a minimum performance or accuracy and frequency criteria for the "calculated values" and accuracy and frequency criteria of telemetered data values. Footnotes should be repeated at least once for each requirement to remind the reader of the definition.

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

1) RAs should be required to run (on-line/real-time) automated studies and off-line operational planning studies to identify and/or forecast bulk reliability concerns, but TOPs should not be subject to such requirements. The standard does not read as though manual analysis is sufficient, as it references "analysis tool" availability and then makes mention of "reliability analysis did not run" in multiple locations. This verbiage indicates that manual reliability analysis is not sufficient. Therefore, modifications should be made to alter this requirement for the TOPs. Expecting every TOP to acquire and maintain on-line reliability analysis tools is too expensive and too obtrusive without adequate reliability benefit to justify such a universal requirement - particularly since the RAs will be required to use such tools anyway.

2) What is the scope of the term "real time"? The footnote appearing on pg.1 of Version A defines "real time" but it is still not clear if this is restricted to data extracted from the Energy Management Systems, and does a reference to "real-time" conceptually imply data, or processes, or both?

3) What is the definition and scope of "operational planning analysis"?

4) It seems the Reliability Analysis definition above is an attempt to conceal the fact that many existing entities performing Reliability Authority Functions do not have a working state estimator. The RA should explain what type of analysis tool(s), the frequency, the type of input data (off-line or real-time), etc. that is used to perform "reliability analysis".

5) Why are the analysis requirements of the RA and the TOP identical? If this is true, why do we need an RA and a TOP?

6) Why isn't there a standard for the TOP to provide telemetered data? There should be

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some type of performance standard established to assess the accuracy of telemetered data.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

1) The focus is only on providing specifications for the data required. It appears to be unclear that there is no requirement to actually provide the real-time data. For example, the TOPs are required to specify and require data, but they do not appear to be required to actually PROVIDE data to RAs.

2) The certification process for the RA/TOP is not the proper means to obtain correct modeling data. It may be appropriate for real-time metering data, but much of the static data for system modelling and analysis is the same as the planning function. It should be consistent with those modelling requirements also.

3) The standard does not distinctly identify the areas of responsibility between the Reliability Authority and the Transmission Operator. Application of the standard to multiple parties ("Authorities") should clearly delineate the primary source of responsibility and ownership of any data, information, control and responsibility. What follows in the Standard are many requirements that duplicate the RA and TOP responsibilities -- who has the primary responsibility/requirement/authority for each?

4) The only provision in this standard is that data on new facilities must be provided seven days before it is energized. If operational planning studies have a scope of greater than seven days (possibly one year), then a seven-day notice is inadequate for these studies. There appears to be a requirement to have a standard that requires entities to provide the base data used to populate the models, in addition to the requirement to provide information on changes.

5) All assumptions should be listed in the Standard's document.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

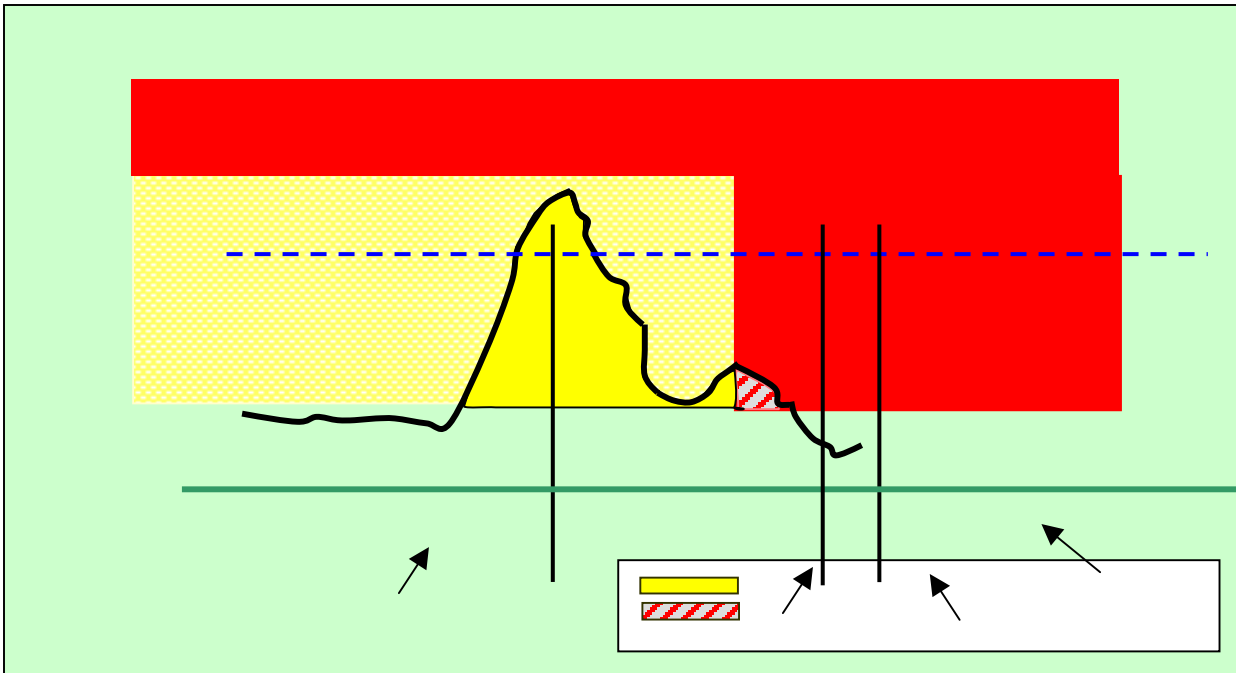
Do you agree?

Yes

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No

Comments: ...as long as this does not lead to the creation of another "industry accepted format" or require a significant change from the way data has routinely been exchanged in the past. (typically using PSS/e or PSLF powerflow raw-data formats for representational data, etc.)



5. Based on the above graph, do you agree with the concept that operation within the "yellow zone" is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: Wait until the OLDTF work is complete.

6. Based on the above graph, do you agree with the concept that operating within the "red zone" is a reportable violation?

Yes

No

Comments: Wait until the OLDTF work is complete.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Real Time

Self-Certification

Instability

Cascading Outages

Uncontrolled Separation

Actual telemetered data, or real-time data?

Real-Time Monitoring

Frequency of Real-Time Monitoring

System Operator Limits

If possible, please provide us with a definition for each of these terms.

System operator limits as defined is appropriate for RAs, but should not be defined as provided for TOPs. For TOPs, system operating limits should not include only those limits which have been identified as leading to cascading outages, instability, or uncontrolled separation. This is a major issue in terms of the scope. As conceived, this standard does not result in any entity assuring that bulk power system is operating within limits. It only results in operating within those limits for which violations result in instability/cascading outage risk. That is inappropriate. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby requiring consistent monitoring and adherence, should be covered by this standard.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments Are you referring to Generator Owner or Generator Operator or both above?

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

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RA

BA

Generator

Planning Authority

Comments 1) What do you mean by "system analysis"?

2) What type of "system analysis" is the TOP supposed to perform?

3) Are you referring to Generator Owner or Generator Operator or both above?

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: 1) The levels of non-compliance should not be determined by the availability of telemetered data; compliance should be based on the RA's capability to monitor System Operating Limits.

2) What do you mean by "actual real-time data"? Does it mean something different than "real-time data"? For consistency, the word actual should be removed from Measure 2.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: 1) Levels 1 and 2 imply that use of substitute data is unacceptable.

2) The only important level of non-compliance listed above is level 4.

3) There seems to be no penalty for failing to identify a System Operating Limit. If an entity identifies limits and then does not monitor them, then the entity is subject to a greater penalty than an entity who fails to identify the limits. Need a process to identify SOLs and to assess system conditions, both real-time and forecast. The measures should be: a) do you have the data; b) do you have the limits; c) are you monitoring the data.

4) What does "surrogate value" mean? Levels 1 and 2 should be rewritten to consider the

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suggested measures listed in these comments.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: 1) Whose responsibility is it to "... monitor (in real time) the system operating limits ..." - the RA or the TOP?

2) Whose compliance is more significant than the other?

3) This requirement should be for the TOP to provide to the RA telemetry data and to monitor system limits and OSLs under the direction of the RA.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

1) Levels 1 and 2 imply that use of substitute data is unacceptable.

2) The only important level of non-compliance listed above is level 4.

3) Loss of telemetry for short periods is an unfortunate but fairly routine matter - with all that telemetry equipment in the field, it cannot be expected that none of it ever has down-time.

4) If this requirement is changed as suggested above, then there should be some type of

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measures defined to capture the need for a certain level of observe-ability and accuracy of the telemetry data. The TOP should also have a list of identified limits on the SCADA system that is being monitored on a periodic basis. The TOP should also have a list of "RA assigned" Operating Security Limits identified by the RA and instructions on mitigation actions to perform if the OSL is reached and/or violated.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: The collection and processing of the data requirements could be a RA data management responsibility. Isn't there a need to develop a requirement to show that the data is used in the analysis? Instead of evaluating the supply of data, shouldn't the focus be on monitoring and assessing transmission reliability?

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

¹ Reliability analyses includes both real time and operational planning analyses

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No

Comments: Regardless of format, either the RA receives the data specified, or it does not. Shouldn't the RA show that the data is being used in the analysis?

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: Suggest measuring the TOP non-compliance at gathering and providing the data to the RA, rather than a redundant requirement for the TOP to collect the data.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: 1) Either the TOP provided the data, or it did not provide the data to the RA. 2)

² Reliability analyses includes both real time and operational planning analyses

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Compliance monitoring does not belong in the requirement section of this document. It may belong in another document pertaining to compliance.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: The language is not clear enough. For example some might interpret the requirement to read differently than others (as follows) - A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: In general there should be at least two levels of non-compliance identified. Why does the data have to be requested? How often should an entity request data? Should data requests be a one time declaration in writing asking for data on new facilities? Is this requirement needed since there is not enough detail to assess non-compliance?

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: The language is not clear enough. See number 18 comments, it is not apparent the types of data being referred to in this requirement. Clarification is needed to specify the required data - from testing, real-time operation, engineering specifications, manufacturer's specifications, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Until numbers 18 and 20 are resolved (clarification of language) the levels of non-compliance cannot be determined. In general there should be at least two levels of non-compliance identified..

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: Clarification language is necessary. Same as 18, 20, 21 above.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See 22. In general there should be at least two levels of non-compliance identified.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: See 22.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See 22. In general there should be at least two levels of non-compliance identified.

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Clarification language is necessary. Same as 18, 20, 21, 22 above.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: 1) See 26. In general there should be at least two levels of non-compliance identified.

2) As an example of the need for clarification language, the ". . . no less than 7 days prior.":

In a market-based system, there are aspects of adding a new market entity that need considerably more than days-to-months lead time; for compliance a generator might be prohibited from operating commercially until all data and interconnection issues are resolved.

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: 1) Clarification language is needed to identify the type of analysis required. Also, define the periodicity of the analysis - how often it needs to be performed.

2) From a reliability standpoint, operational planning studies are recommended to be performed to determine the adequacy during system outages.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: 1) Number 28 needs to be addressed before non-compliance can be determined.

2) Based on the time-frames specified, the levels of non-compliance imply different compliance than the requirement does. Clarification should consider: Is the requirement based on real-time operating concerns, or is it based on a short-term reliability/scheduling concern?

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: This requirement should be eliminated - Requirement 10 (at the RA level) is adequate. See response to Question number 2.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See 30.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: Should not combine the terms "prevention" and "mitigation" in the same requirement/measure unless the language is clear to eliminate potential ambiguity. Prevention and mitigation are actions that may be undertaken in two different timeframes. Without clear language, the requirement/measure should be separated into two separate requirements to address the prevention and mitigation as separate issues. This requirement and requirement 14 should be combined and rewritten to require that the RA have procedures in place that specifies actions needed to preserve reliable operation of the system.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 32 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: 1) See 32. 2) How are conflicting results from an RAs analysis vs. the TOPs analysis to be resolved?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 34 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: 1) The requirement can be enhanced. See the following comments as examples:

2) It should be clarified that these plans need to include system intact and applicable prior-outage conditions.

3) It is only necessary to have a procedure in place that relieves the SOL violation. If a mitigation plan requires external approvals, then by whom? Will security constrained generation redispatch be an acceptable prevention or mitigation action?

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 36 needs to be addressed and resolved before the levels of non-compliance can be determined..

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: 1) Clarification is necessary to specify that these plans need to include system intact and applicable prior-outage conditions.

2) System Operating Limit should be in capital letters to be consistent with the definition on page 2.

3) There may be potential conflict between the RA and TOP in prevention/mitigation actions. Is this requirement necessary?

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 38 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: Delay this requirement until the OLDTF collaborates with the SDT to define "operating limits". These new limit definitions must also go through the standards process before formal implementation.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 40 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: See 40.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 42 needs to be addressed and resolved before the levels of non-compliance can be determined. In general there should be at least two levels of non-compliance identified.

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

The work of the OLDTF has shown that there are differences in the interpretation and response to limit determinations and violations among the interconnections and Regions. The Standard and its compliance measurements should not dictate whether a particular RA should operate in a predictive or a responsive mode (i.e., take action in advance to prevent an overload based on predictive analysis, or take steps to mitigate an actual overload only on occurrence)

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

1) The OLDTF has definitions that need to be considered prior to finalizing this standard.

2) Operating limits that should be secured should include voltage collapse transfer limits in addition to equipment ratings violations.

3) Confidentiality of data needs to be addressed. Transmission line flows and generator outputs have commercial implications in real-time market-based systems. The Standard should recognize this concern.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: Version B is written more clearly than Version A and is easier to follow. Entities that are responsible for complying with this standard will find it easier to determine what is required of them for compliance. In addition, the levels of non-compliance are spelled out more clearly; there is less room for interpretation.

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47. If you have comments on the format of the standard, please share them with us.

Comments:

1) Subtitles should be added to sectionalize the standard and a table of contents added.

2) Jim Byrd presented Functional model issues to the NERC PC/OC/MIC on March 19, 2003 in Birmingham and stated that one of the major issues with the Functional model is that the functions are perceived to be organizations. Jim stated that efforts will be made to clarify that the functions are not organizations. Since all references to functions, such as, RA, BA, PA, TOP, etc. are listed in standards documents as "entities" for convenience; for example, sentences begin: "The RA shall..." instead of "Entities responsible for RA functions shall...", all NERC standards documents should contain a clarification statement explaining that the functions are not organizations and that all references to the functions should be interpreted as "entities responsible for --- function".

3) All assumptions should be listed in the standards document.

4) Footnotes of definitions should be repeated for each requirement write-up.

5) There should always be at least two levels of non-compliance defined.

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: The Standard should differentiate between real-time data and modeling data. We suggest the definition of "Real-time Data" should be "real-time measured values, state estimator values derived from the measured values, or other calculated values derived from the measured values". "Modeling Data" should be values characteristic of the facilities modeled to determine or estimate the power system performance.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: Please define "operational planning analyses" as used in this standard.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: This standard is for assuring the power system is operated within transmission limits. The functional responsibilities should be contained in this standards, not a certification standard. If necessary, the standard for certifying an "entity" to perform certain functions, like operating within transmission limits, should reference this document to assure the entity can be certified to perform those functions. Therefore, this standard should address base data and changes to that data.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

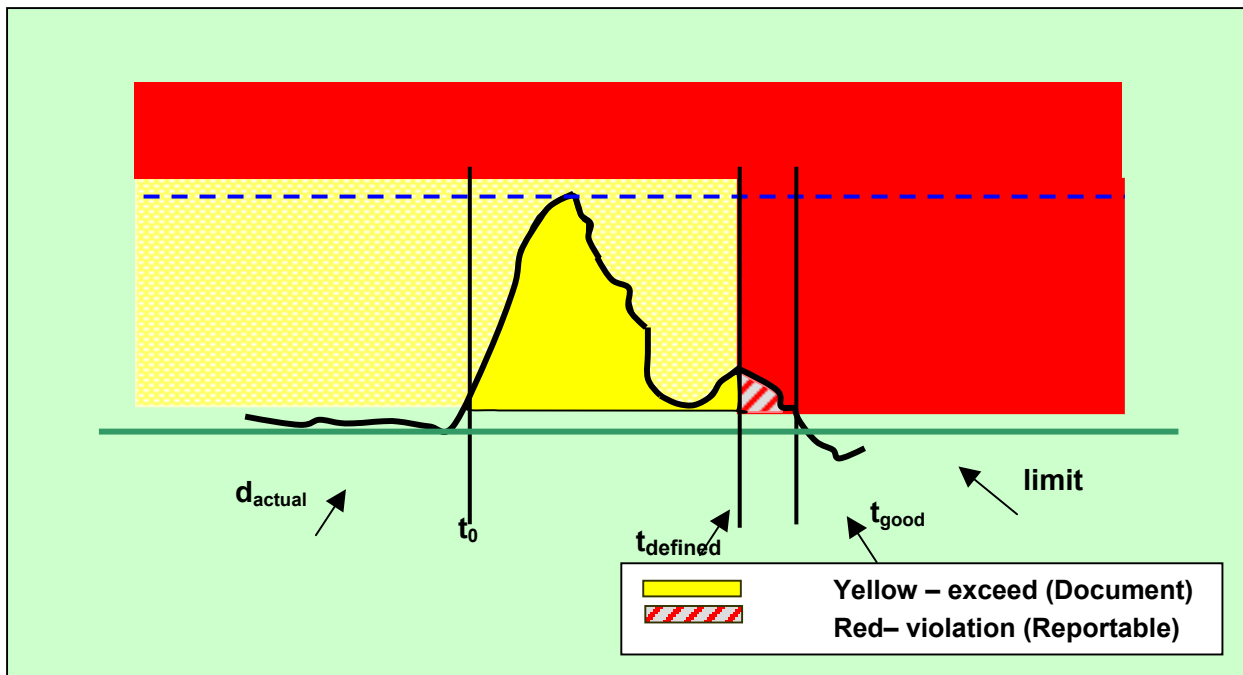
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Do you agree?

Yes

No

Comments: We agree with the requirement so long as an existing "Industry Accepted Format" is used and a new one is not created.



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: There is not enough information to understand the chart nor to answer this question. Operating above a limit in an event the duration of which is less than the time frame upon which the limit is calculated does not seem to be a reportable violation. We are not sure what the dashed line represents. We agree that an operating limit could be exceeded for a short time, but less than the time frame upon which the limit is based, and not be considered a reportable violation.

6. Based on the above graph, do you agree with the concept that operating within the “red

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zone” is a reportable violation?

Yes

No

Comments: There is not enough information to understand the chart nor to answer this question. What kind of a limit is this? Does violating this limit cause cascading, uncontrolled separation of a significant portion of the Interconnect? If so, then we agree that this is a reportable violation. If this limit is a post-contingent thermal limit that won't cascade far, if at all, then this would not be a reportable violation.

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Operational Planning Studies

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA**
- TOP**
- Generator**
- Planning Authority**

Comments The question should be restated to conform to the parenthetical statement - Who should provide the RA with generator operational characteristic data needed for system analyses? The Generator Owner function (consistent with the Revised Functional Model) should provide the generator data necessary for system analysis and operational performance to any and all functions needing that data, including the RA. If needed, the RA may request the necessary generator data from the Transmission Owner to whom the Generator Owner should be obligated to provide the data as part of its interconnection and operating agreement with the Transmission Owner.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA**
- BA**
- Generator**
- Planning Authority**

Comments The question should be restated to conform to the parenthetical statement - Who should provide the TOP or RA with generator operational characteristic data needed for system analyses? The Generator Owner function (consistent with the Revised Functional Model) should provide the generator data necessary for system

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analyses and operational performance analyses to any and all functions needing that data, including the TOP and RA. If needed, the TOP or RA may request the necessary generator data from the Transmission Owner to whom the Generator Owner should be obligated to provide the data as part of its interconnection and operating agreement with the Transmission owner.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: The requirement should read "The RA shall continuously monitor real-time system parameters against system operating limits. System operating limits are established through the standard "Determine Facility Ratings, Operating Limits and Transfer Capabilities".

Please define "actual real time data". If it is the same as "real time data" then Measure 2 should read "Real-time Data is available in a form that can be compared to the system operating limits." We use the term "real-time data" as we have defined it in these comments.

The "Outcome" should be deleted as it is a restatement of the Requirement and adds nothing to this standard.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels of non-compliance should not be determined by the availability of telemetered data. Much of the information used to meet Measure 2 is derived from measured values by the state estimator or other calculations. An RAs level of non-compliance should reflect that function's ability to meet the Requirement as reflected in the Measures: 1) have the SOLs available in real time, and 2) real-time data in a form that can be compared to the SOLs. Please revise the Levels of Non-compliance to conform to the Measures.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Our comments to Requirement 1 apply to Requirement 2 also. Requirement 2 should also reflect the requirement that the TOP monitor all facilities to assure the real-time system parameters are under Facility Ratings.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Our comments to Requirement 1 apply to Requirement 2 also.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: However, we suggest the requirement be more general stating "...data it needs from all entities using the transmission system to maintain the ..", deleting the list of some but not all functions.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: However, we suggest the requirement be more general stating "...data it needs from all entities using the transmission system to maintain the ..", deleting the list of some but not all functions.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

² Reliability analyses includes both real time and operational planning analyses

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Comments:

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: The RA should provide data when requested, not 7 days prior to energization. Please delete the phrase "no less than 7 days prior to the energization of new facilities or changes to existing facilities" from both the Requirements and the Measures.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There probably should be more than one level of non-compliance and not supplying requested data should not be the highest level of violation. The first level should be "Data for new/revised facilities not provided to TOPs and associated RAs when the data was . The second level should be "Data for new/revised facilities was not provided as requested". The fourth level of non-compliance should be "Data not supplied to TOPs or associated RAs resulted in SOL violations".

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: The BA should provide data when requested, not 7 days prior to energization. Please delete the phrase "no less than 7 days prior to the energization of new facilities or changes to existing facilities" from both the Requirements and the Measures.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There probably should be more than one level of non-compliance and not supplying requested data should not be the highest level of violation. The first level should be "Data for new/revised facilities not provided to TOPs and associated RAs when the data was . The second level should be "Data for new/revised facilities was not provided as requested". The fourth level of non-compliance should be "Data not supplied to TOPs or associated RAs resulted in SOL violations".

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: The IA should provide data when requested, not 7 days prior to energization. Please delete the phrase "no less than 7 days prior to the energization of new facilities or changes to existing facilities" from both the Requirements and the Measures.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There probably should be more than one level of non-compliance and not supplying requested data should not be the highest level of violation. The first level should be "Data for new/revised facilities not provided to TOPs and associated RAs when the data was . The second level should be "Data for new/revised facilities was not provided as requested". The fourth level of non-compliance should be "Data not supplied to TOPs or associated RAs resulted in SOL violations".

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: The TOW should provide data when requested, not 7 days prior to energization. Please delete the phrase "no less than 7 days prior to the energization of new facilities or changes to existing facilities" from both the Requirements and the Measures.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There probably should be more than one level of non-compliance and not supplying requested data should not be the highest level of violation. The first level should be "Data for new/revised facilities not provided to TOPs and associated RAs when the data was . The second level should be "Data for new/revised facilities was not provided as requested". The fourth level of non-compliance should be "Data not supplied to TOPs or associated RAs resulted in SOL violations".

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: The Generator Owner should provide data when requested, not 7 days prior to energization. Please delete the phrase "no less than 7 days prior to the energization of new facilities or changes to existing facilities" from both the Requirements and the Measures.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There probably should be more than one level of non-compliance and not supplying requested data should not be the highest level of violation. The first level should be "Data for new/revised facilities not provided to TOPs and associated RAs when the data was . The second level should be "Data for new/revised facilities was not provided as requested". The fourth level of non-compliance should be "Data not supplied to TOPs or associated RAs resulted in SOL violations".

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: We agree with this requirement in general. However, we suggest removing the term "when requested" from the Measures and add "as needed" in its place. The RA should be able to run analysis programs "when requested". It is more important he run the programs when needed to analyze the system limitations.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Levels of non-compliance should be based on the RAs not analyzing the system as needed to determine system limitations. The levels of non-compliance, as specified, will direct the RAs efforts to running an analysis "when requested", rather than analyzing the system. Therefore, we suggest changing the levels of non-compliance in a direction that will incnt the RA to properly analyze the system.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: Our comments to Requirement 10 apply here also.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Our comments to Requirement 10 apply here also.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: This requirement should be revised to clearly separate "prevent" and "mitigate" identified problems. This is also difficult to quantify. Suppose a next-hour contingency analysis is run based on expected load and generation and it shows a slight post-contingent overload. Then, the weather changes in the area of the overload, causing no overload (projected post-contingent) in real-time. Was this a Level 3 violation? The RA should forecast problems and observe the trajectory of the trends and then determine the appropriate course of action or inaction as the case may be.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: In general, this requirement is somewhat subjective and difficult to quantify. Operators will become unnecessarily conservative in order to meet this requirement.

Also, levels 2 and 3 of non-compliance must be revised, they are exactly the same.

Level 2 should read something like - "Monitoring and/or reliability analyses identified a potential problem - no actions, or incorrect actions, were taken but no limit violation".

Level 3 should read something like - "Monitoring and/or reliability analyses identified a

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problem, actions were taken but were not sufficient to mitigate the problem, but no instability, uncontrolled separation or cascading outages occurred.

Level 4 seems OK.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: Comments to Requirement 12 apply here also.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Comments to Requirement 12 apply here also.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: We agree with this Requirement, in general. However, the plan should not have to be "approved" by anyone other than through internal RA processes.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Our comment to Requirement 14 applies here also. It could also be argued that a TOP should share its mitigation plans with its RA.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The 2nd level could be that the mitigation plan exists, has been approved by the TOP, but hasn't been shared with its RA.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: How can an RA prove the negative, that is, how can they prove that a violation of system operating limits did not occur, unless they keep all operational data for some length of time? NERC needs to carefully consider this requirement, as the operational data generated on an hourly basis with a 4 second scan rate is unbelievably voluminous. We would prefer that a short rolling time limit be set for the retention of all EMS data, such as 3 months. There should be some kind of investigation procedure that triggers the analysis of this data on a post-event basis.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Following up on our comments in 40, we believe that the levels would be 1. Some data was available but not enough to complete the analysis. Report was filed on time but

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was incomplete. 2. Not Applicable. 3. (We agree with level 3 as shown.) and 4) Data was wholly missing and / or documentation didn't exist.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: We believe that our answers to questions 40 and 41 are also significant here.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels of noncompliance should include Level 3, Data doesn't exist. We believe that our answers to questions 40 and 41 are also significant here.

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

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1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: The term data must be qualified as real time when real time data is being compared to short term operational limits.

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: RAs should be required to run (on-line/real-time) automated studies to identify bulk reliability concerns, but TOPs should not be subject to such requirements. I don't believe the Standard reads as though manual analysis is sufficient, as it references "analysis tool" availability and the makes mention of "reliability analysis did not run" in a multiple locations. This verbiage indicates that manual reliability analysis is not sufficient. Therefore, modifications should be made to alter this requirement for the TOPs. Expecting every TOP to acquire and maintain on-line reliability analysis tools is too expensive and too obtrusive without adequate reliability benefit to justify such a universal requirement - particularly since the RAs will be required to use such tools anyway.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this "base data" that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: The focus is only on providing specifications for the data required. There appears to be a hole in that no requirement to actually provide the real-time data is spelled out. For example, the TOP's are required to specify and require data, but they don't appear to be required to actually PROVIDE data to RAs.

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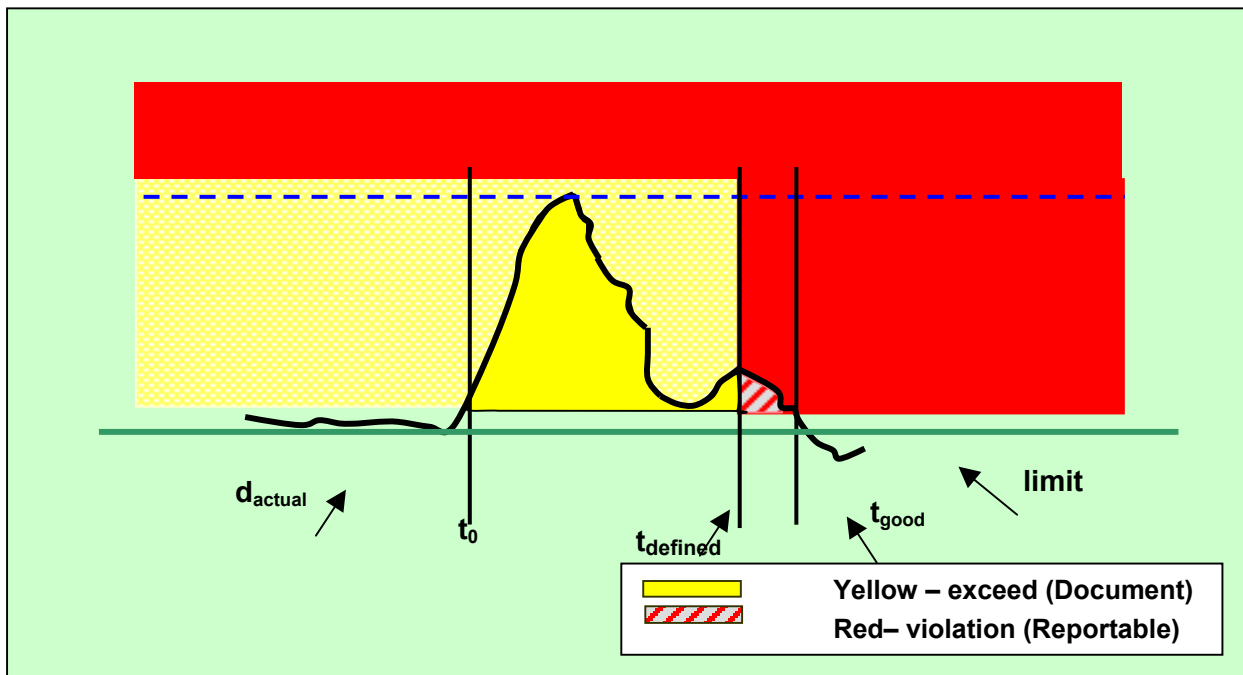
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

Yes

No

Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

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Yes

No

Comments: It should further be clarified that operation in such a zone is a violation regardless of whether or not instability/cascading outages happened or could have happened - if the limit was exceeded for the specified time, it is a reportable violation under any prevailing system conditions.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Surrogate Value needs to be defined.

Supporting Documentation needs to be defined

If possible, please provide us with a definition for each of these terms.

System operator limits as defined herein is appropriate for RAs, but should not be defined as provided herein for TOPs. For TOPs, system operating limits should not include only those limits which have been identified as leading to cascading outages, instability, or uncontrolled separation. This is a major issue in terms of the scope. As conceived herein, this standard does not result in any entity assuring that the bulk power system is operating within limits, it only results in operating within those limits for which violations result in instability/cascading outage risk. That is inappropriate. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby requiring consistent monitoring and adherence, should be covered by this standard.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments A single source for this data is desired

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments A single source for this data is desired

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: In the outcome section, actual data should be qualified as actual real time data.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should read, for example: "Actual telemetered data needed for monitoring system operating limits provided to the RA as specified, but unavailable to the operator, so surrogate value was monitored for up to 24 hours." In each of the first two measures, this caveat noting that the compliance failure should only be considered a failure when the RA is getting the data, but mishandling it. Said another way, if the RA isn't getting the data because the TOPs (or others) are not sending the data, then no non-compliance occurs.

Level #1 should be 48 hours, level #2 should be 72 hours, and level #3 should have a 96 hour requirement. In many instances, 24 hours may be impractical especially with reliance on outside communication providers.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: In 1 and 2, the words "for more than 3 hours" should be added after the word unavailable. Loss of telemetry for short periods is an unfortunate but fairly routine matter - with all that telemetry equipment in the field, it can't be expected that none of it ever has down-time.

Level #1 should be 48 hours, level #2 should be 72 hours, and level #3 should have a 96 hour requirement. In many instances, 24 hours may be impractical especially with reliance on outside communication providers.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level #1 and #2 non-compliance should be level #3 and level #4 non-

¹ Reliability analyses includes both real time and operational planning analyses

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compliance. Level #1 and level #2 should be changed to "Not Applicable".

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level #1 and #2 non-compliance should be level #3 and level #4 non-compliance. Level #1 and level #2 should be changed to "Not Applicable".

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: This is too vague - provide what data? Who is receiving and providing required data should also be clarified. Is this just tied to telemetry, or is it more broad than that? Depending on what data this is, 7 days may be too short.

The industry will need to change its current business practices in order to comply with requirement.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: This is too vague - provide what data? Who is receiving and providing required data should also be clarified. Is this just tied to telemetry, or is it more broad than that? Depending on what data this is, 7 days may be too short.

The industry will need to change its current business practices in order to comply with requirement

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: This is too vague - provide what data? Who is receiving and providing required data should also be clarified. Is this just tied to telemetry, or is it more broad than that? Depending on what data this is, 7 days may be too short.

The industry will need to change its current business practices in order to comply with requirement

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: This is too vague - provide what data? Who is receiving and providing required data should also be clarified. Is this just tied to telemetry, or is it more broad than that? Depending on what data this is, 7 days may be too short.

The industry will need to change its current business practices in order to comply with requirement.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: This is too vague - provide what data? Who is receiving and providing required data should also be clarified. Is this just tied to telemetry, or is it more broad than that? Depending on what data this is, 7 days may be too short.

The industry will need to change its current business practices in order to comply with requirement.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: is it practical to require on-line dynamic, voltage, and small signal stability analysis, or can an RA use a proxy?

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level #3 should read "Reliability analysis did not run when requested, but ran in 24-48 hours" and level #4 should be added to read "Reliability analysis did not run when requested, and did not run in 48 hours"

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: RAs should be required to run (on-line/real-time) automated studies to identify bulk reliability concerns, but TOPs should not be subject to such requirements. I don't believe the Standard reads as though manual analysis is sufficient, as it references "analysis tool" availability and the makes mention of "reliability analysis did not run" in a multiple locations. This verbiage indicates that manual reliability analysis is not sufficient. Therefore, modifications should be made to alter this requirement for the TOPs. Expecting every TOP to acquire and maintain on-line reliability analysis tools is too expensive and too obtrusive without adequate reliability benefit to justify such a universal requirement - particularly since the RAs will be required to use such tools anyway.

See comment under question #7 regarding the definition of operating limits.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: see #30

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: "Problem" is too vague. Also, this should not be tied solely to instability, uncontrolled separation, or cascading... other operating limits also need to be consistently adhered to.

System Operating Limit should be in caps to be consistent with the definition on page 2.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: "Problem" is too vague. Also, this should not be tied solely to instability, uncontrolled separation, or cascading... other operating limits also need to be consistently adhered to.

System Operating Limit should be in caps to be consistent with the definition on page 2.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: It should be clarified that these plans need to include system intact and applicable prior-outage conditions.

: System Operating Limit should be in caps to be consistent with the definition on page 2. The requirement section language should be the same as that for requirement #15.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It should be clarified who needs to approve these plans - corporate management, NERC....

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: It should be clarified that these plans need to include system intact and applicable prior-outage conditions.

System Operating Limit should be in caps to be consistent with the definition on page 2.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It should be clarified who needs to approve these plans - corporate management, NERC....

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: System Operating Limit should be in caps to be consistent with the definition on page 2. What is the significance of a three year retention requirement? Suggest a one year retention requirement.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: System Operating Limit should be in caps to be consistent with the definition on page 2.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level #4 should read "Data didn't exist" instead of "Documentation didn't exist"

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: See comments already made above regarding the scope of the definition of system operating limits.

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: I think version B is written more clearly than version A and is easier to follow. I think that the entities that are responsible for complying to this standard will find it easier to determine what is required of them for compliance. I also think that the levels of Non-Compliance are spelled out more clearly, there is less room for interpretation.

47. If you have comments on the format of the standard, please share them with us.

Comments: The Outcome section should have 100% Compliance Requirement added to it. 100% Compliance is identified in the Comment document but not in the standard itself. I think this should be added throughout the document.

Section 204(e) is incorrectly numbered as 203(e) (Version B)

Section 204 (e) and (f) are mislabeled 205(e) and (f) (Version A)

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Section 202(f) is mislabeled as 201(f) (Version B)

The Compliance Monitoring sections are not evaluated above - this comment applies to them: In the Compliance Monitoring Process section it states that the entity responsible for complying shall have the following data available upon request of the Compliance Monitor; it does not state the time period within which the entity must respond. I think that a specific time requirement in which the information shall be provided needs be added. Adding the specific time to provide the information makes the requirement more measurable. This is true for Sections 201 - 206.

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1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: The term 'data' as it applies to this standard should only be applicable to 'real time' or 'actual metered' data.

The term "actual" should be removed from the sentence reading "actual real time data associated with those limits". ACTUAL implies REAL and "real" data is only one of the several types of data which are being defined in the footnote as being included as "real time data". Suggestion: Simply use the phrase "real time data". That would make it easier to accept the definition of "data" described in footnote 2 as being "real, state estimated or other...etc".

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: It is agreed that Reliability Analysis may include consideration of results of planning studies, however this proposal includes language which would require Transmission Operators to conduct these analyses along with RA's. While large RTO's performing TOP functions may have no problem acquiring system models and other tools with which to perform these studies, smaller TOP's such as Coop, PUD's and other non-jurisdictional TOP's who may operate Transmission Systems may have neither the tools nor the staffing to do anything but use manual monitoring to maintain system reliability.

The drafting team should assess the feasibility of this requirement being met by small non RTO participant TOP's.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this "base data" that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: In order to accurately model system operations for reliability analysis, the RA should have data relating to the intended actual operation of system facilities. While revisions to the base

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data will certainly be necessary for system modeling, additional near real time operational data must be considered even if there is no change to facilities or to the base data. The standard should make it clear that additional data, above and beyond that provided as base data may be required of facility owners.

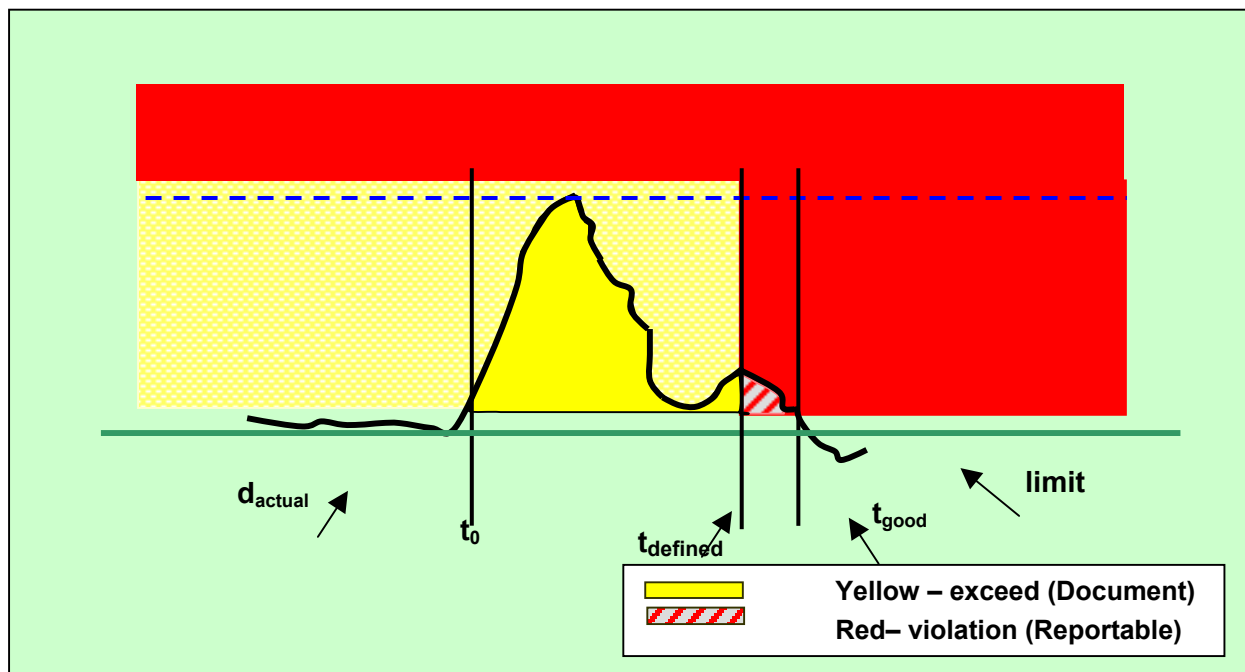
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

Yes

No

Comments: The industry accepted format should be arrived at by industry consensus.



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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: But, the lines and arrows look like they need some more accurate placement.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: But, the lines and arrows look like they need some more accurate placement.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Self Certification

The various types of "data" referred to in the standard. The standard should be very specific about what type of data is acceptable.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
 TOP
 Generator
 Planning Authority

Comments With regards to this and subsequent references to "Generator"; the Functional Model has recently been expanded (in draft at least) to include Generator Owners and Generator Operators. This standard should refer to those particular entities when making requirements for Generators.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
 BA
 Generator
 Planning Authority

Comments See #8 re: Gen Operator/Gen Owner

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: In general we agree---but do have some reservations:

In the requirements---The terminology related to instability, separation, and cascading outages are more often associated with Operating Security Limits than with System Operating Limits.

In the outcomes---The word SHALL sounds too much like a requirement, in fact this whole statement mimics the requirement very closely. The outcome should relate meeting the requirement to its effect and might read something like.. "The RA closely monitors the bulk electric system assuring reliable operation. At any rate, the Reliability Authority should be monitoring critical facilities that could cause a violation to the set operating limits - those critical facilities should have already been identified in the operating planning studies. 'Assuring reliability' means that upon a violation of a system limit, actions are taken to move the system back within the correct operating limits.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: I think what the TOP is monitoring is not the limits but the critical parts of the system to ensure the limits are no violated

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: The data the RA needs to collect in order to maintain models should be determined through some collaborative process involving the interested parties. The determination of what data to collect should not be based on subjective, arbitrary requests but rather on defensible criteria which are consistent across the industry.

Confidentiality of third party market sensitive information may be an issue which needs to be addressed.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

¹ Reliability analyses includes both real time and operational planning analyses

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15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should this be a yes - no answer? What if a party was required to provide 10 parameters and provided 9 of the 10. The current levels would have this be a violation. Should there be two interim levels (3 and 4: over or under 85% of required data for example) which provide a bit of leniency? As written, the compliance levels don't agree with this portion of the standard they are too vague

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: A qualified YES: The determination of required information should not be done unilaterally by the TOP as this language implies. It should be determined through a collaborative process, and should protect market sensitive information to the greatest extent possible while still maintaining a reliable system.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

² Reliability analyses includes both real time and operational planning analyses

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Comments: There seems to be some middle ground between yes and no which should fill in levels 3 and 4 as above.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: 7 days is too short a period to fully evaluate the impact of new facilities on system. Six months seems a more reasonable time frame.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be levels of compliance based upon notification and collaboration with affected parties

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: 7 days is too short a period to fully evaluate the impact of new facilities on system. Six months seems a more reasonable time frame.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be levels of compliance based upon notification and collaboration with affected parties

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: Responsibilities relegated to the IA in the Functional Model are related to the implementation of Interchange Schedules; they do not include responsibilities related to this requirement.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: IA's do not normally have the information referred to in the requirements.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: 7 days is too short a period for evaluation of system impacts.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be levels of compliance based upon notification and collaboration with affected parties

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Is 7 days the appropriate time frame for data submittal?? Does it allow sufficient time for proper analysis of the impact on the system? Seems like the data needs to be submitted in the time frame of weeks before energization in order to do system studies. Six months may be required, in some cases at least.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should be levels of compliance based upon notification and collaboration with affected parties

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: In principle we agree, this 'analyses' needs to be done immediately prior to the operating day - Some description needs to be added to provide clarity on when the analyses are supposed to be completed

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Not stringent enough.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: The drafting team should consider the requirement for TOP's to run reliability analysis "programs" in the context of the small, non-RTO, Transmission Operator who may not have access to these tools.

Again, clarity as to when the analysis must be completed.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Too lax.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: But..is there really a substantive difference between level 2 and level 3? Should three read "...no reportable violation occurred"????

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: The and/or language implies that monitoring is sufficient and other more sophisticated analysis tools are optional. This is appropriate language which will allow smaller TOP's to be compliant.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: But..is there really a substantive difference between level 2 and level 3? Should three read "...no reportable violation occurred"????

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: The plan should be the result of a collaborative effort of all involved parties.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Compliance needs to affirm that a collaborative process took place in the development of the 'mitigation plan'.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: The plan should be the result of a collaborative effort of all involved parties.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Compliance needs to affirm that a collaborative process took place in the development of the 'mitigation plan'.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: In the West, differences are settled through the WECC OTCP process.

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: This standard needs to discuss a process or point to a process by which all of the operational planning studies (the 'seasonal base case data') and 'mitigation plans' (our operating procedures) are developed, reviewed, discussed and agreed upon. This is a very big gap in this standard.

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: Requirements sorted or grouped by entities described in the functional model might be helpful for finding requirements related to a particular function ie: Requirements for generators.

47. If you have comments on the format of the standard, please share them with us.

Comments: It seems to be too long! The drafting team should look to consolidate where ever possible. Requirements 5, 6, 7, 8, & 9 seem to be prime candidates for incorporation into a single requirement which is applicable to the different entities.

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: Such a broad definition that includes "real-time" and "operational planning" allows for a great amount of variability in what the RA must do to assess the security/reliability of the system. This results in difficulty in assessing and measuring compliance. E.g. - one RA may perform real-time studies whereas another may not. If this broad definition is adopted, then specific references in the standard to a "real time" or "operational planning" time frame as to when these analysis are performed is needed.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: The certification standard for all NERC Reliability Model functions should rely on the reliability standard itself to describe the particular requirements. A certification standard should only assess on a general level whether a reliability function is capable of performing its intended function(s). The Operating Within Limits Standard must - on its own - detail the exact data requirements for all RAs and TOPs and not have to rely on a Certification Standard to provide the data. In fact, the Certification Standard(s) should reference the Operating Within Limits Standard (and other applicable standards) to obtain the needed data for certification.

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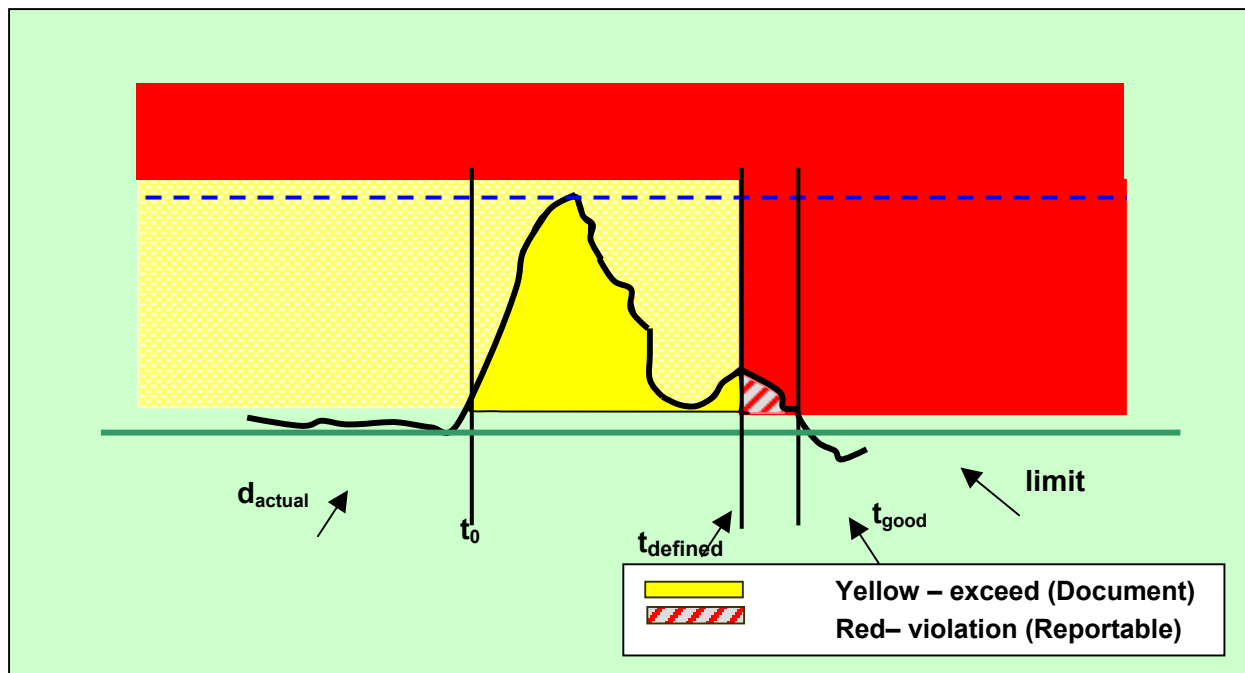
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

Yes

No

Comments: The term "Industry Accepted Format" may be interpreted to be RTO established, Regional Reliability Council established or some standards setting organization (non-NERC) established format. The Standard should either specify the format - or if a single format is not applicable for the entire North America, then the Standard should provide enough direction for those who must comply with its requirements as to where/who will specify the format.



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: The yellow zone is clearly a region where the operations exceed a stated "safe" limit.

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To maintain the integrity of that limit, such excursions must be recognized. These should be reported to NERC and recorded though not defined as a "reportable violation".

6. Based on the above graph, do you agree with the concept that operating within the "red zone" is a reportable violation?

Yes

No

Comments: The Red region represents a condition where the system has operated beyond some specified time period in which the industry has agreed it will try to alleviate the excursion. The "reportable violation" is defined in conjunction with both the MW amount and the "t defined". The "t defined" should be a value that is proposed and commented on in the development of the Operate Within Limits Standard.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments The generator operational characteristics are needed for many purposes and this information may be needed by others besides the RA. NERC should require a single coordination point for the submittal of this information. One must not be required to submit this same information repeatedly to different entities or "authorities". E.g. - if there is already a requirement for generator operational characteristics to be supplied to the Planning Authority, then the PA may be authorized to provide it to the RA. Data confidentiality agreements may apply.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments The generator operational characteristics are needed for many purposes and this information may be needed by others besides the RA. NERC should require a single coordination point for the submittal of this information. One must not be required to submit this same information repeatedly to different entities or "authorities". E.g. - if there is already a requirement for generator operational characteristics to be supplied to the Planning Authority, then the PA may be authorized to provide it to the

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RA. Data confidentiality agreements may apply.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 1 may require a more stringent time frame than a 24 hour loss of telemetered data. RAs should have the most accurate information at all times. There is no apparent check whether the surrogate value is as accurate as the actual telemetered data. Reliability may be greatly jeopardized if the RA employs inaccurate data for a 24 hour period. We recommend for Level 1 compliance that surrogate values not be relied on for more than 4 hours. This provides incentive to recover from the loss of data well within the operating time frame of the wholesale market 8 hour block schedules. For Level 2 compliance, 24 hours is appropriate. As an alternative, there could be some recognition in the suggested compliance levels for the time of day (& day of week) as to when the data is not available. This system visibility that this information provides is most critical when the system is in danger of a operating limit violation.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please see comments on Question #11.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: It is unclear what the relationship and responsibilities of the TOP are as compared to the RA. The Standard proposes the same language for both functions. What is the reporting relationship and operational hierarchy between the RA and the TOP? Is the TOP analysis more "local" in nature than the RA analysis? What if each one's analysis does not agree? Which analysis will prevail to ensure grid reliability?

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: The RA must not act when there are market mechanisms available to mitigate/prevent the identified problem. This Standard must recognize that such congestion management processes will be accommodated by the RAs before RAs take actions. The Standard must coordinate with the business practice or standard that will be employed to relieve congestion or anticipated system problems.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: These compliance measures do not recognize the accommodation and coordination with market mechanisms to achieve the reliability objective.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: It is unclear what the relationship and responsibilities of the TOP are as compared to the RA. The Standard proposes the same language for both functions. What is the reporting relationship and operational hierarchy between the RA and the TOP? Is the TOP analysis more "local" in nature than the RA analysis? What if each one's analysis does not agree? Which analysis will prevail to ensure grid reliability?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Same comment as for Requirement #12, question # 32.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Same comment as Requirement #13, question #34.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: It is unclear as to how the system operating limits are established and by who. It is also unclear what the specified period of time that the system exceeds the limit is established and by who. These limits and time periods must be known and pre-approved in a process where all parties that may be affected by the violation can comment.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: These non-compliance levels do not specify what the conditions for an "incident" are. Does the standard rely on the definition of "reportable incident" proposed in Question #5 as the threshold for compliance measurement?

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: Same comments as for questions # 34 and #40.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: The Standard should be able to address all Regional and Interconnection differences.

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: As stated in comments to Question #32, there must be coordination between the reliability mitigation procedures and business procedures for congestion management.

If yes, please identify what you feel should be added.

Coordination requirements with business standards for congestion management.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)

Name	Alan Johnson
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Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

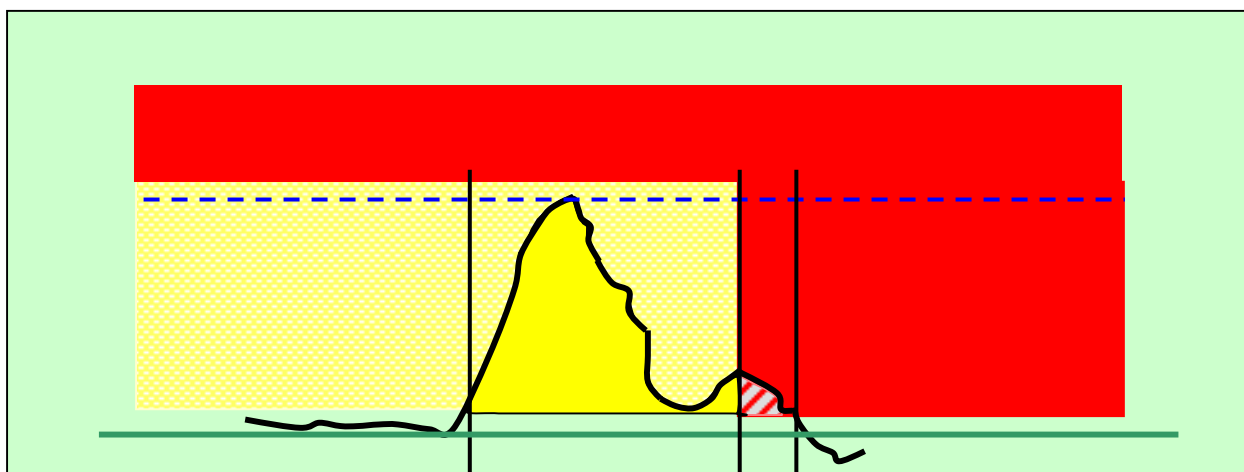
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

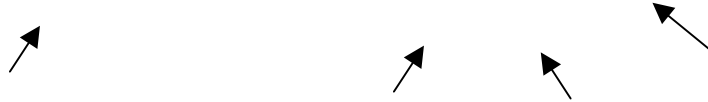
Yes

No

Comments: This term is too vague to be utilized in the standard. At a minimum, the term should reference another standard (developed by NERC and/or NAESB) where the “standard” format is fully described. As the term is used within the standard, it seems that potentially, each RA could specify a different meaning. This is something that must be avoided.



Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments: Under certain circumstances (for example during the interconnection process) it is probably more efficient for the generator to provide information directly to the TOP. Generally, however, the flow of information should be retained.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: May not be reading this correctly, but it seems unreasonable that if some data is missing during a 24-hour period that the RA is deemed to be non-compliant. Seems like there should be allowance for some sort of tolerance before being deemed non-compliant.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: May not be reading this correctly, but it seems unreasonable that if some data is missing during a 24-hour period that the RA is deemed to be non-compliant. Seems like there should be allowance for some sort of tolerance before being deemed non-compliant.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: Note that this "industry accepted format" must be somehow defined by the industry (via either NERC or NAESB as appropriate), and not vary from RA to RA.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

¹ Reliability analyses includes both real time and operational planning analyses

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Comments:

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: Consistent with the Functional Model, shouldn't the TOP request and receive the necessary data from the RA. It seems as if data requests are flowing in too many directions, which can result in models operating off of different data sets. Also, note that this "industry accepted format" must be somehow defined by the industry (via either NERC or NAESB as appropriate), and not vary from RA to RA.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

² Reliability analyses includes both real time and operational planning analyses

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Yes

No

Comments: No, only because I don't concur with requirement 16.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Agree conceptually, but need some clarification as to what is meant by "...changes to existing facilities". What types of changes are intended here?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Not sure that non-compliance should jump right to level 4.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: Agree conceptually, but need some clarification as to what is meant by "...changes to existing facilities". What types of changes are intended here?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Not sure that non-compliance should jump right to level 4.

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: Agree conceptually, but need some clarification as to what is meant by "...changes to existing facilities". What types of changes are intended here?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Not sure that non-compliance should jump right to level 4.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: Agree conceptually, but need some clarification as to what is meant by "...changes to existing facilities". What types of changes are intended here?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Agree conceptually, but need some clarification as to what is meant by "...changes to existing facilities". What types of changes are intended here?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: Believe the requirement should specify which entities can make a request of the RA. Would also think that there should be a distinction made between requests of a real-time and planning nature.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should be a distinction between non-compliance for real-time and planning requests.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: The measure should specify which functions can make a request of the TOP. There may also be a need to make a distinction between real-time and planning requests.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should be a distinction between non-compliance for real-time and planning requests.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: Question whether this is fully compliant with the Functional Model. Shouldn't the TOP take direction from the RA regarding the implementation of reliability matters? Or does it take direction from the RA and have the responsibility to act independently and report its actions to the RA?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Agree in concept, but unclear as to who approves the mitigation plan and on what basis. Does it fall upon NERC to make these determinations?

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Again, agree in concept, but unclear as to what process will be used to approve the mitigation plan.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: Version A makes it easier to cite specific measures and/or requirements. However, by simply adding some numbered sub-bullets, the same could be said for Version B.

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

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STD Commenter Information (For Individual Commenters)	
Name	William J. Smith
Organization	Allegheny Power
Industry Segment #	1
Telephone	724-838-6552
E-mail	wsmith1@alleghenypower.com

<p>Key to Industry Segment #'s:</p> <ul style="list-style-type: none"> 1 – Trans. Owners 2 – RTO's, ISO's, RRC's 3 – LSE's 4 – TDU's 5 - Generators 6 - Brokers, Aggregators, and Marketers 7 - Large Electricity End Users 8 - Small Electricity Users 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:	Group Chair:	
	Chair Phone:	
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: “Real” should include manually monitored values.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

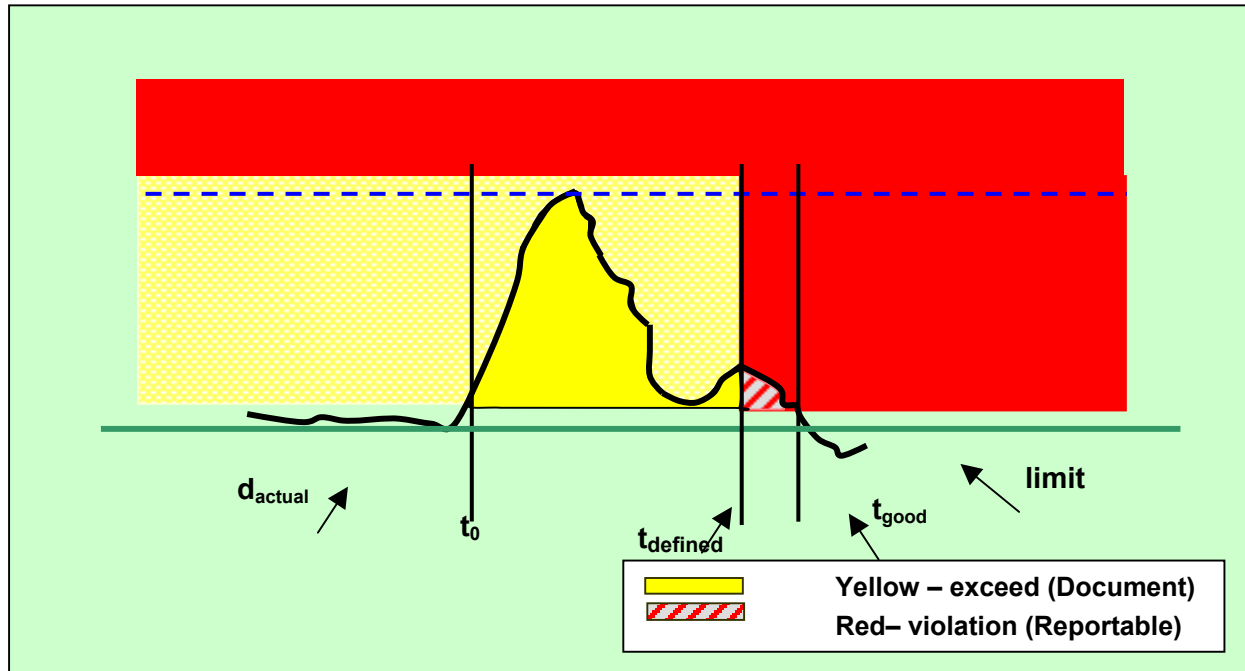
Do you agree?

Yes

No

Comments:

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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

- Yes
 No

Comments: This is an excellent graph, but I am unsure the intent of including it in these comments? The graph depicts an OSL violation involving time and is too simplistic. OSLs could also be violated by exceeding the continuous ratings, or by exceeding emergency ratings for post-contingency flows monitored by state estimators. An OSL violation could also involve exceeding post-contingency voltage limits or stability limits where cascading could result. If OSL violations are going to be defined in this document, then all potential violation should be addressed.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

- Yes
 No

Comments: This graph shows the possibility of an OSL violation occurring for a momentary excursion above a limit without exceeding a limit for a period of time ($t_{defined}$). I was not

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aware that this constituted a violation.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: I agree with the intent. However, the RA is actually monitoring the actual real time data and comparing it against the system operating limits. A definition of "system operating limits" would allow for the removal of the parenthetical phrases in Requirement 1.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should not be non-compliance at level 1 or 2 when the RA or TOP stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: I agree with the intent. However, the RA is actually monitoring the actual real time data and comparing it against the system operating limits. A definition of "system operating limits" would allow for the removal of the parenthetical phrases in Requirement 1.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There should not be non-compliance at level 1 or 2 when the RA or TOP stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

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Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

- Yes
 No

Comments: Requirement 212 and 213 are very similar. Requirement 212 applies to Reliability Authorities and requirement 213 applies to Transmission Operators. There should be some coordination so that the two entities don't take different actions.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: Requirement 212 and 213 are very similar. Requirement 212 applies to Reliability Authorities and requirement 213 applies to Transmission Operators. There should be some coordination so that the two entities don't take different actions.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Requirement 214 and 215 are very similar. Requirement 214 applies to Reliability Authorities and requirement 215 applies to Transmission Operators. Coordination among the two entities should be required.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Requirement 214 and 215 are very similar. Requirement 214 applies to Reliability Authorities and requirement 215 applies to Transmission Operators. Coordination among the two entities should be required.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments: Add descriptive titles to the subsections for ease of reading.

48. Please list any other comments you may have in the space below.

Comments:

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: The specified data should include manually calculated values. Data should include real-time, state estimated, calculated or manually monitored values. It should allow a Reliability Coordinator/Transmission Operator/Generator to station an individual at a plant or substation to directly monitor values.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

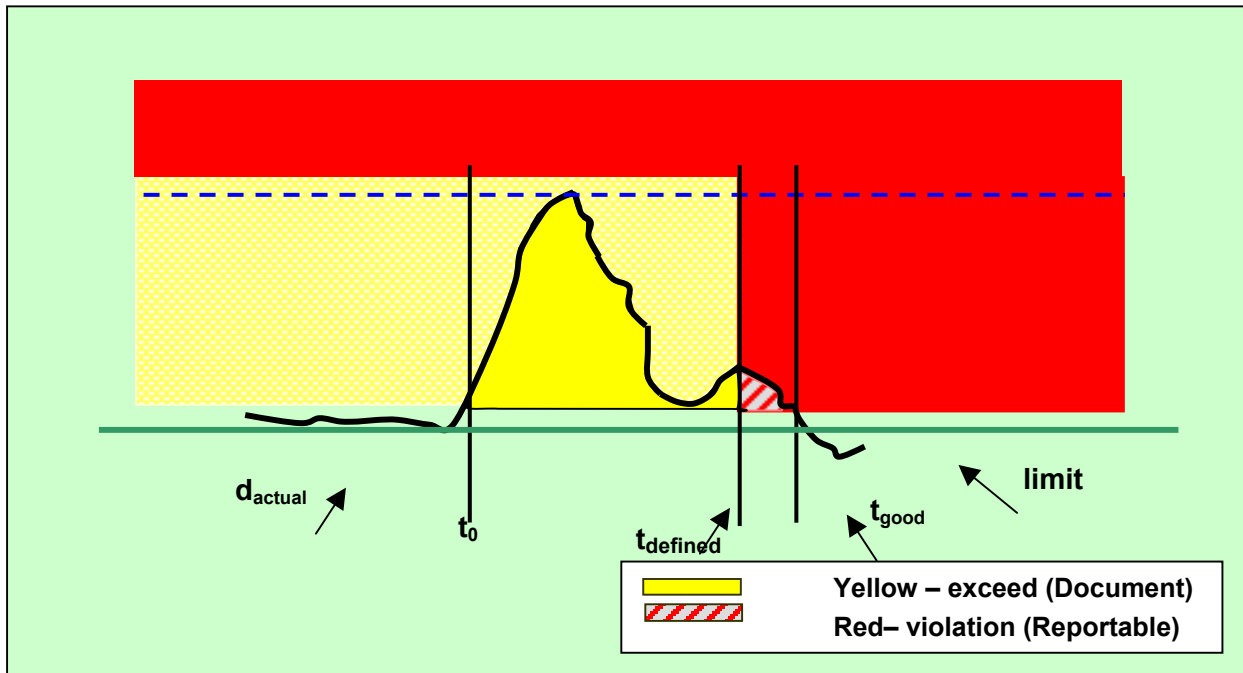
Do you agree?

Yes

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No

Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: It would be of value to state that a reportable violation does not exist until the Operating Security Limit has been consecutively violated for $t_{defined}$. It would also be of value to state that the exceeding of the operating limit for any period of time must be documented. If in the graph the monitored value dipped below the Operating Security Limit for an instance and then exceeded the limit for the rest of the period and that was still an Operating Security Limit Violation, another loophole will have been addressed. Documenting near misses is also a good idea

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

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Comments: The graph is confusing and additional wording should be added to clarify.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

(1) Occurrence Period, (2) Operating Security Limit Violation

If possible, please provide us with a definition for each of these terms.

(1) Occurrence Period - What do you mean when you refer to an Occurrence Period, need better definition

(2) Operating Security Limit Violation - A limit that results in instability, uncontrolled separation, or cascading outages if exceeded for more than one hour. We believe this definition is appropriate for the existing NERC template on Operating Security Limit Violation.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments The Generator is the best possible resource. However, as long as the data is accurately supplied, it doesn't matter who supplies it. I don't think the standard should be too prescriptive on who supplies the data.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments The Generator is the best possible resource. As long as the data is accurately supplied I don't care who supplies it. I don't think the standard should be too proscriptive on who supplies the data.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: We agree with the intent of this requirement and associated performance/outcome but the written words need to be changed.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: . (1) Operating Security Limits are not usually monitored in real time. (2) There should not be a non-compliance at level 1 or 2 when a Reliability Coordinator (RC) or Transmission Operator (TOP) stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working. The existing standard forces a non-compliance whenever the telecommunications equipment is not working. (3) Note 1 says - 'Real Time could be continuous analog data or data sampled at a rate greater than or equal to one minute -----'. One minute is a unit of time not a rate. It should say - 'Real time could be continuous analog data or data sampled faster than or equal to once a minute-----'. (4) Requirements 201 and 202 are very similar. Requirement 201 applies to Reliability Coordinators. Requirement 202 applies to Transmission Operators. The requirements are duplicative. The standard should require system conditions to be monitored by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing the monitoring if they so wish, but both of them should not be forced to do so. There is nothing

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wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: We agree with the intent of this requirement and associated performance/outcome but the written words need to be changed. (1) Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that exceeds a limit. This concept also needs to be reflected in section 202 (e) Compliance Monitoring Process.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: (1) Operating Security Limits are not usually monitored in real time. (2) There should not be a non-compliance at level 1 or 2 when a Reliability Coordinator (RC) or Transmission Operator (TOP) stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working. The existing standard forces a non-compliance whenever the telecommunications equipment is not working. (3) Requirements 201 and 202 are very similar. Requirement 201 applies to Reliability Coordinators. Requirement 202

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applies to Transmission Operators. The requirements are duplicative. The standard should require system conditions to be monitored by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing the monitoring if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: We recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state '----- timeframe, and notation that data be technically accurate and complete'. We would rewrite these measures to state '-----timeframe, and notation that data be accurate and complete'. What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

¹ Reliability analyses includes both real time and operational planning analyses

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Yes

No

Comments: . Requirements 203 and 204 are very similar. Requirement 203 applies to Reliability Coordinators. Requirement 204 applies to Transmission Operators. The requirements are duplicative. The standard should require accurate models to be maintained by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them maintaining accurate models if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: We recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state '----- timeframe, and notation that data be technically accurate and complete'. I would rewrite these measures to state '-----timeframe, and notation that data be accurate and complete'.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

² Reliability analyses includes both real time and operational planning analyses

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Comments: Requirements 203 and 204 are very similar. Requirement 203 applies to Reliability Coordinators. Requirement 204 applies to Transmission Operators. The requirements are duplicative. The standard should require accurate models to be maintained by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them maintaining accurate models if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) Change 'by an (associated) RA' to 'by another RA'. Less words, more descriptive. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the BA can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the IA can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

- Yes
 No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the TOP can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) I'm not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the Generation Owner can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: Requirements 210 and 211 are very similar. Requirement 210 applies to Reliability Coordinators. Requirement 211 applies to Transmission Operators. The requirements are duplicative. The standard should require a reliability analysis to be performed by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing a reliability analysis if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: The Reliability Coordinator should be allowed to use a previous reliability analysis that covered similar system conditions if the reliability analysis could not be run because of computer problems or was duplicative of a previous reliability analysis. Such action should not result in a non-compliance.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: Requirements 210 and 211 are very similar. Requirement 210 applies to Reliability Coordinators. Requirement 211 applies to Transmission Operators. The requirements are duplicative. The standard should require a reliability analysis to be performed by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing a reliability analysis if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The Transmission Operator should be allowed to use a previous reliability analysis that covered similar system conditions if the reliability analysis could not be run because of computer problems or was duplicative of a previous reliability analysis. Such action should not result in a non-compliance.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: (1) Requirements 212 and 213 are very similar. Requirement 212 applies to Reliability Coordinators. Requirement 213 applies to Transmission Operators. The requirements are duplicative. The standard should require actions be taken to prevent/mitigate identified problems by either the Reliability Coordinator or the Transmission Operator, but not both of them. It should be clear in the agreement between the Transmission Operator and their Reliability Coordinator who has authority to take the action to correct or mitigate a problem. Having two different entities responsible to take action to correct a problem is troublesome. The possibility exists that the two entities may decide on different courses of action to solve the problem. Valuable minutes may be squandered by the two different entities attempting to coordinate actions. Only one entity should have the responsibility to take action and that responsibility needs to be clearly delineated.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. We don't think that the Reliability Coordinator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: (1) Requirements 212 and 213 are very similar. Requirement 212 applies to Reliability Coordinators. Requirement 213 applies to Transmission Operators. The requirements are duplicative. The standard should require actions be taken to prevent/mitigate identified problems by either the Reliability Coordinator or the Transmission Operator, but not both of them. It should be clear in the agreement between the Transmission Operator and their Reliability Coordinator who has authority to take the action to correct or mitigate a problem. Having two different entities responsible to take action to correct a problem is troublesome. The possibility exists that the two entities may decide on different courses of action to solve the problem. Valuable minutes may be squandered by the two different entities attempting to coordinate actions. Only one entity should have the responsibility to take action and that responsibility needs to be clearly delineated.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: I agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. I don't think that the Transmission Operator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Requirements 214 and 215 are very similar. Requirement 214 applies to Reliability Coordinators. Requirement 215 applies to Transmission Operators. The Reliability Coordinator Plan and the Transmission Operator Plan must be coordinated. These plans must clearly state the responsibilities of the Reliability Coordinator and the responsibilities of the Transmission Operator. There must not be any confusion as to who has the responsibility to take specific actions.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Requirements 214 and 215 are very similar. Requirement 214 applies to Reliability Coordinators. Requirement 215 applies to Transmission Operators. The Reliability Coordinator Plan and the Transmission Operator Plan must be coordinated. These plans must clearly state the responsibilities of the Reliability Coordinator and the responsibilities of the Transmission Operator. There must not be any confusion as to who has the responsibility to take specific actions.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: (

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: 1) Throughout the standard the term Reliability Authority is used. This term is out of date and has been replaced by Reliability Coordinator. Is the Reliability Authority in this questionnaire identical to the Reliability Coordinator function? This issue needs clarification. If the Reliability Authority in this questionnaire is different than the Reliability Coordinator function, there needs to be an explanation of the difference. (2) Throughout the standard the term 'system operating limit' is used. This term should be replaced with the term 'Operating Security Limit'. There are many different system operating limits. These standards do not apply to all of them. This standard only applies to Operating Security Limits violations. The term Operating Security Limit should be used and defined to distinguish it from the multitude of system operating limits that are routinely used in everyday operation.

If yes, please identify what you feel should be added.

**(1) Throughout the standard replace the term Reliability Authority with Reliability Coordinator.
(2) Throughout the standard replace the term 'system operating limit' with Operating Security Limit. Write a definition of Operating Security Limit.**

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: It will be easier to modify the standards if each requirement is a stand alone item.

47. If you have comments on the format of the standard, please share them with us.

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: As long as specified data includes manually calculated values. Data should include real-time, state estimated, calculated or manually monitored values. It should allow a Reliability Coordinator/Transmission Operator/Generator to station an individual at a plant or substation to directly monitor values.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: This assumption needs to be clearly stated at the front end of the standard.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

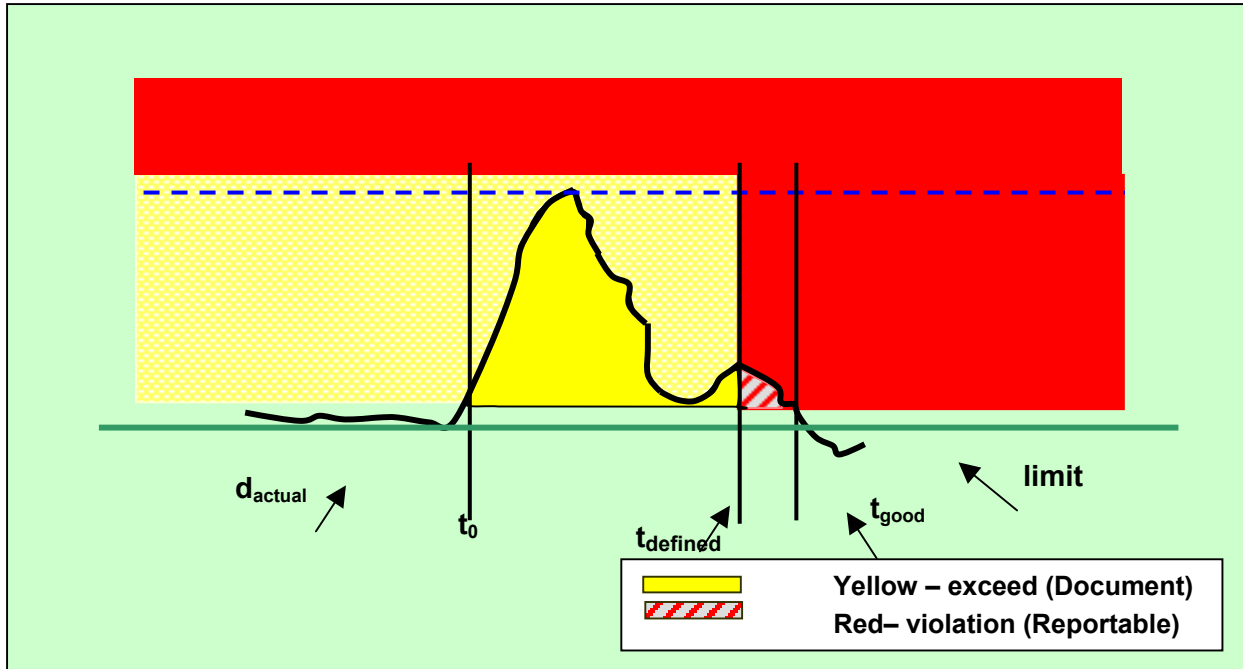
Do you agree?

Yes

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No

Comments: This assumption needs to be clearly stated and also should be similar to 4B of NERC policy



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes
 No

Comments: It would be of value to state that a reportable violation does not exist until the Operating Security Limit has been consecutively violated for $t_{defined}$. It would also be of value to state that the exceeding of the operating limit for any period of time must be documented. If in the graph the monitored value dipped below the Operating Security Limit for an instance and then exceeded the limit for the rest of the period and that was still an Operating Security Limit Violation, another loophole will have been addressed. Documenting near misses is also a good idea

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

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No

Comments: The graph still remains confusing and violations should be better defined.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

(1) Occurrence Period, (2) Operating Security Limit Violation

If possible, please provide us with a definition for each of these terms.

(1) Occurrence Period - Not sure what you mean when you refer to an Occurrence Period, need better definition

(2) Operating Security Limit Violation - A limit that results in instability, uncontrolled separation, or cascading outages if exceeded for more than one hour. We believe this definition is appropriate for the existing NERC template on Operating Security Limit Violation.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments The Generator is the entity closest to the physical facilities so he should be the best possible resource. However, the Reliability Coordinator (RC) should use data from the BA, the TOP, or the Planning Authority, if he can't get the data from the Generator. The Generator also may prefer to supply all his data via the BA or the TOP. This should be allowed. As long as the data is accurately supplied, it doesn't matter who supplies it. I don't think the standard should be too prescriptive on who supplies the data.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments The Generator is the entity closest to the physical facilities so he should be the best possible resource. However, the TOP should use data from the Reliability

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Coordinator (RC), the BA, or the Planning Authority if he can't get the data from the Generator. The Generator also may prefer to supply all his data via the BA or the RC. This should be allowed. As long as the data is accurately supplied I don't care who supplies it. I don't think the standard should be too proscriptive on who supplies the data.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: We agree with the intent of this requirement and associated performance/outcome but the written words need to be changed.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: . (1) Operating Security Limits are not usually monitored in real time. (2) There should not be a non-compliance at level 1 or 2 when a Reliability Coordinator (RC) or Transmission Operator (TOP) stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working. The existing standard forces a non-compliance whenever the telecommunications equipment is not working. (3) Note 1 says - 'Real Time could be continuous analog data or data sampled at a rate greater than or equal to one minute -----'. One minute is a unit of time not a rate. It should say - 'Real time could be continuous analog data or data sampled faster than or equal to once a minute-----'. (4) Requirements 201 and 202 are very similar. Requirement 201 applies to Reliability Coordinators. Requirement 202 applies to Transmission Operators. The requirements are duplicative. The standard should require system conditions to be monitored by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing the monitoring if they so wish, but both of them should not be forced to do so. There is nothing

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wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: We agree with the intent of this requirement and associated performance/outcome but the written words need to be changed. (1) Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that exceeds a limit. This concept also needs to be reflected in section 202 (e) Compliance Monitoring Process.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: (1) Operating Security Limits are not usually monitored in real time. (2) There should not be a non-compliance at level 1 or 2 when a Reliability Coordinator (RC) or Transmission Operator (TOP) stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working. The existing standard forces a non-compliance whenever the telecommunications equipment is not working. (3) Requirements 201 and 202 are very similar. Requirement 201 applies to Reliability Coordinators. Requirement 202

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applies to Transmission Operators. The requirements are duplicative. The standard should require system conditions to be monitored by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing the monitoring if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: We recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state '----- timeframe, and notation that data be technically accurate and complete'. We would rewrite these measures to state '-----timeframe, and notation that data be accurate and complete'. What is the difference between accurate data and technically accurate date? Is technically accurate data better that accurate data? Is technically accurate date different that accurate data?

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

¹ Reliability analyses includes both real time and operational planning analyses

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Yes

No

Comments: . Requirements 203 and 204 are very similar. Requirement 203 applies to Reliability Coordinators. Requirement 204 applies to Transmission Operators. The requirements are duplicative. The standard should require accurate models to be maintained by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them maintaining accurate models if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: We recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state '----- timeframe, and notation that data be technically accurate and complete'. I would rewrite these measures to state '-----timeframe, and notation that data be accurate and complete'.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

² Reliability analyses includes both real time and operational planning analyses

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Comments: Requirements 203 and 204 are very similar. Requirement 203 applies to Reliability Coordinators. Requirement 204 applies to Transmission Operators. The requirements are duplicative. The standard should require accurate models to be maintained by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them maintaining accurate models if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) Change 'by an (associated) RA' to 'by another RA'. Less words, more descriptive. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the BA can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the IA can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

- Yes
 No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the TOP can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) I'm not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the Generation Owner can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: Requirements 210 and 211 are very similar. Requirement 210 applies to Reliability Coordinators. Requirement 211 applies to Transmission Operators. The requirements are duplicative. The standard should require a reliability analysis to be performed by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing a reliability analysis if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: The Reliability Coordinator should be allowed to use a previous reliability analysis that covered similar system conditions if the reliability analysis could not be run because of computer problems or was duplicative of a previous reliability analysis. Such action should not result in a non-compliance.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: Requirements 210 and 211 are very similar. Requirement 210 applies to Reliability Coordinators. Requirement 211 applies to Transmission Operators. The requirements are duplicative. The standard should require a reliability analysis to be performed by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing a reliability analysis if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The Transmission Operator should be allowed to use a previous reliability analysis that covered similar system conditions if the reliability analysis could not be run because of computer problems or was duplicative of a previous reliability analysis. Such action should not result in a non-compliance.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: (1) Requirements 212 and 213 are very similar. Requirement 212 applies to Reliability Coordinators. Requirement 213 applies to Transmission Operators. The requirements are duplicative. The standard should require actions be taken to prevent/mitigate identified problems by either the Reliability Coordinator or the Transmission Operator, but not both of them. It should be clear in the agreement between the Transmission Operator and their Reliability Coordinator who has authority to take the action to correct or mitigate a problem. Having two different entities responsible to take action to correct a problem is troublesome. The possibility exists that the two entities may decide on different courses of action to solve the problem. Valuable minutes may be squandered by the two different entities attempting to coordinate actions. Only one entity should have the responsibility to take action and that responsibility needs to be clearly delineated.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. We don't think that the Reliability Coordinator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: (1) Requirements 212 and 213 are very similar. Requirement 212 applies to Reliability Coordinators. Requirement 213 applies to Transmission Operators. The requirements are duplicative. The standard should require actions be taken to prevent/mitigate identified problems by either the Reliability Coordinator or the Transmission Operator, but not both of them. It should be clear in the agreement between the Transmission Operator and their Reliability Coordinator who has authority to take the action to correct or mitigate a problem. Having two different entities responsible to take action to correct a problem is troublesome. The possibility exists that the two entities may decide on different courses of action to solve the problem. Valuable minutes may be squandered by the two different entities attempting to coordinate actions. Only one entity should have the responsibility to take action and that responsibility needs to be clearly delineated.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: I agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. I don't think that the Transmission Operator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Requirements 214 and 215 are very similar. Requirement 214 applies to Reliability Coordinators. Requirement 215 applies to Transmission Operators. The Reliability Coordinator Plan and the Transmission Operator Plan must be coordinated. These plans must clearly state the responsibilities of the Reliability Coordinator and the responsibilities of the Transmission Operator. There must not be any confusion as to who has the responsibility to take specific actions.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Version A and Version B of this questionnaire have different descriptions of non-compliance for this requirement. The standard needs to define which description is correct.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Requirements 214 and 215 are very similar. Requirement 214 applies to Reliability Coordinators. Requirement 215 applies to Transmission Operators. The Reliability Coordinator Plan and the Transmission Operator Plan must be coordinated. These plans must clearly state the responsibilities of the Reliability Coordinator and the responsibilities of the Transmission Operator. There must not be any confusion as to who has the responsibility to take specific actions.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Version A and Version B of this questionnaire have different descriptions of non-compliance for this requirement. The standard needs to define which description is correct.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: (

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: 1) Throughout the standard the term Reliability Authority is used. This term is out of date and has been replaced by Reliability Coordinator. Is the Reliability Authority in this questionnaire identical to the Reliability Coordinator function? This issue needs clarification. If the Reliability Authority in this questionnaire is different than the Reliability Coordinator function, there needs to be an explanation of the difference. (2) Throughout the standard the term 'system operating limit' is used. This term should be replaced with the term 'Operating Security Limit'. There are many different system operating limits. These standards do not apply to all of them. This standard only applies to Operating Security Limits violations. The term Operating Security Limit should be used and defined to distinguish it from the multitude of system operating limits that are routinely used in everyday operation.

If yes, please identify what you feel should be added.

**(1) Throughout the standard replace the term Reliability Authority with Reliability Coordinator.
(2) Throughout the standard replace the term 'system operating limit' with Operating Security Limit. Write a definition of Operating Security Limit.**

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: It will be easier to modify the standards if each requirement is a stand alone item.

47. If you have comments on the format of the standard, please share them with us.

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STD Commenter Information (For Individual Commenters)

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Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial
Regulatory or other Govt. Entities

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Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

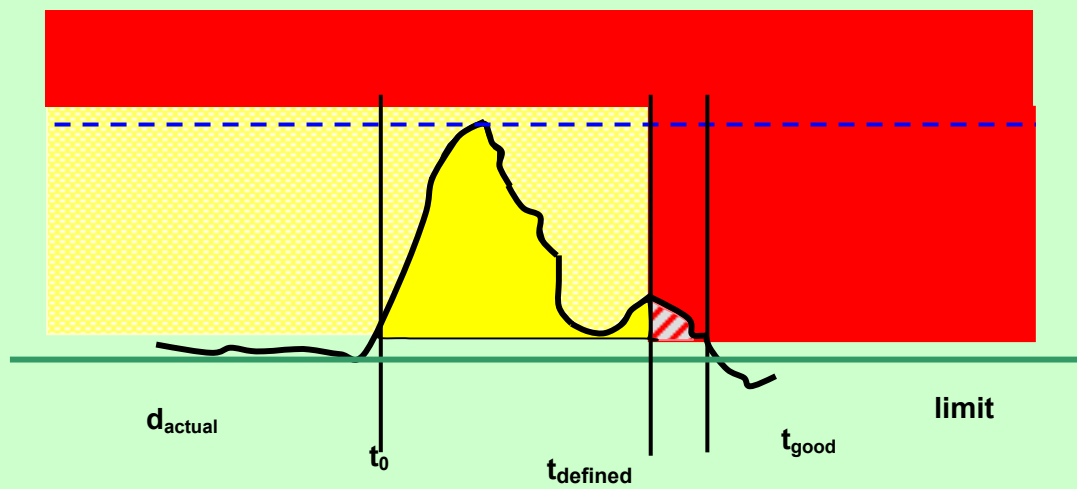
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

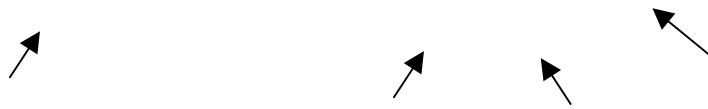
Yes

No

Comments:



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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: The graph needs additional information – axis label, d, etc.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

N/A

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

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Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Emergency changes to existing facilities should be exempted with a requirement to coordinate with the above entities.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: Emergency changes to existing facilities should be exempted with a requirement to coordinate with the above entities.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: Emergency changes to existing facilities should be exempted with a requirement to coordinate with the above entities.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: Emergency changes to existing facilities should be exempted with a requirement to coordinate with the above entities.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Emergency changes to existing facilities should be exempted with a requirement to coordinate with the above entities.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: Other than the comments above

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)

Name Gregory Campoli
Organization New York Independent System Operator
Industry Segment # 2
Telephone 518-356-6159
E-mail gcampoli@nyiso.com

Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Do you agree?

Yes

No

Comments: It is difficult to assess compliance if you are not specific with the type of assessment and the time frame that needs to be address. For each case where a reliability analysis is required for compliance, a specific reference to real time or operational analysis needs to be defined. The references to real time analysis is not adequate, a better definition is required.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: This issue is unclear. It is not clear in the Standard as to the nature of the data required. Is this data static, telemetered or modeling data. We are interpreting one requirement to mean that the RA will identify that data collected and provided for reliability analysis. This is not to say the an RA may request data on an as needed bases to perform the reliability analysis. Where is the role of the Compliance Monitor defined?

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

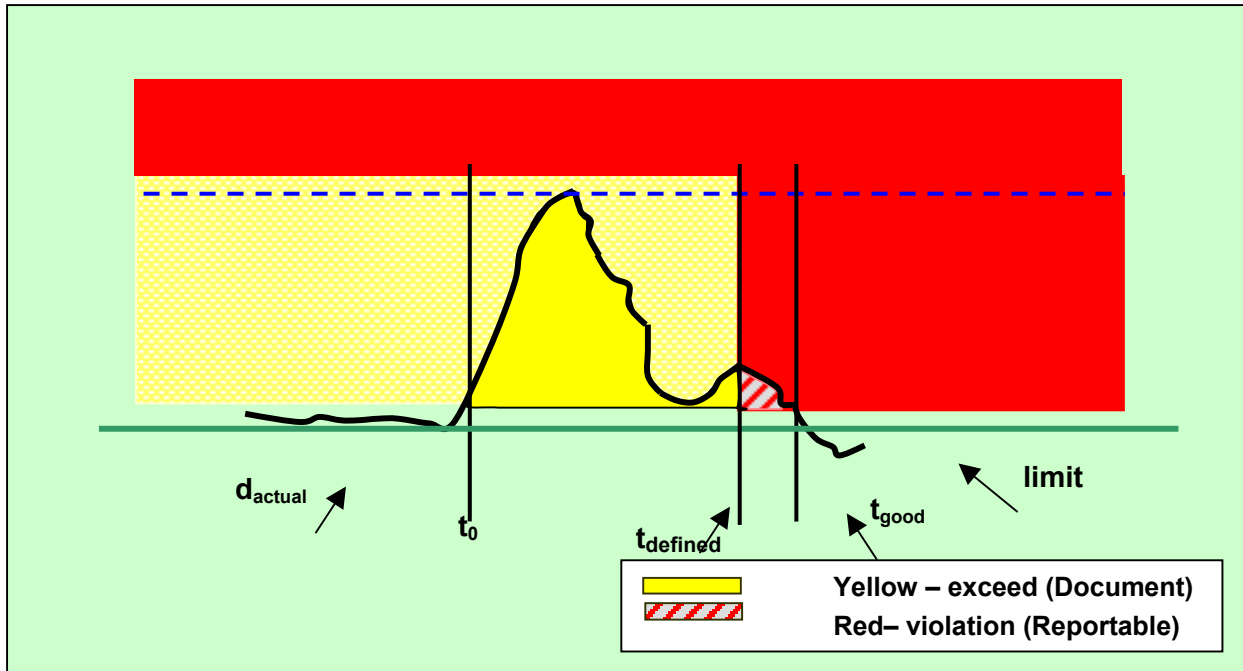
Do you agree?

Yes

No

Comments: It is not clear who defines the "Industry Accepted Format". It should state that the Industry accepted format should be a mutually agreed upon format defined by the individuals that are exchanging data. This format must not be prescriptive.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: Responses to this portion of the standard should be delayed until a response is provided by the NERC Operating Limit Definition TF.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: Responses to this portion of the standard should be delayed until a response is provided by the NERC Operating Limit Definition TF.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Real Time Data

Self Certification

Operational Analysis

Planning Analysis

Real Time Analysis

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments The RA should be able to cross check data used by the Planning Authority with current data provided by the Generator.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments The TOP should be able to cross check data used by the Planning Authority with current data provided by the Generator.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: The RA's ability to monitor system operating limits is not limited by actual real time data. A better definition or a better term needs to be considered for actual real time data.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Levels of non compliance should not be measured by availability of telemetered data. Levels of non compliance should be focused on the ability to monitor current system operating limits and system conditions. In some cases substitute data should be acceptable.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: It is unclear by this requirement alone, who has jurisdiction for monitoring Operating Limits RA or TOP. The TOP's ability to monitor system operating limits is not limited by actual real time data. A better definition or a better term needs to be considered for actual real time data.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Levels of non compliance should not be measured by availability of telemetered data. Levels of non compliance should be focused on the ability to monitor current system operating limits and system conditions.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: The reference to notification of Compliance Monitor should not be specific to this or any other standard and should be centralized in a compliance document. There also needs to be a clear distinction between data for modeling reliability analysis and data for real time system monitoring.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

¹ Reliability analyses includes both real time and operational planning analyses

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No

Comments: The compliance levels do not meet the intent of the requirement. The levels of compliance should focus on the RA maintenance of a valid system model representation and the collection of real time data.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: The reference to notification of Compliance Monitor should not be specific to the standard and should be centralized in a compliance document. There also needs to be a clear distinction between data for modeling reliability analysis and for real time monitoring.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

² Reliability analyses includes both real time and operational planning analyses

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Comments: The compliance levels do not meet the intent of the requirement. The levels of compliance should focus on the TOP's maintenance of a valid model representation and the collection of real time data.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: This requirement is unclear. There is confusion as to the type of data required. We agree if we assume that this requirement is for operational/scheduling information for performing a reliability assessment for operations planning. This does not work for data being provided for the first time from new facilities for planning studies.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: premature to define levels of non compliance

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: This requirement is unclear. There is confusion as to the type of data. We agree if we assume that this requirement is for operational/scheduling information for performing a reliability assessment for operation planning. This does not work for data being provided for the first time from new facilities such as engineering data.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It is premature to develop compliance levels at this time.

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: This requirement is unclear. There is confusion as to the type of data. We agree if we assume that this requirement is for operational/scheduling information for performing a reliability assessment for operations planning. This does not work for data being provided for the first time from new facilities such as engineering data.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It is premature to develop compliance levels at this time.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

- Yes
 No

Comments: This requirement is unclear. There is confusion as to the type of data. We agree if we assume that this requirement is for operational/scheduling information for performing a reliability assessment for operations planning. This does not work for data being provided for the first time from new facilities such as engineering data.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: It is premature to develop compliance levels at this time.

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: This requirement is unclear. There is confusion as to the type of data. We agree if we assume that this requirement is for operational/scheduling information for performing a reliability assessment for operations planning. This does not work for data being provided for the first time from new facilities such as engineering data.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It is premature to develop compliance levels at this time.

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: There is insufficient detail in measuring compliance with this requirement. This requirement identifies both operational analysis and real time analysis which implies various time frames for assessment.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: This does not capture the wide range of possible risks associated with not meeting the intent of this requirement.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: There is insufficient detail in measuring compliance with this requirement. This requirement identifies both operational analysis and real time analysis which implies various time frames for assessment.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: This does not capture the wide range of possible risks associated with not meeting the intent of this requirement.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

- Yes
- No

Comments: The reference "to prevent" is related to real time monitoring and "mitigate" is related to operational planning analysis ? These requirements should be made clear.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

- Yes
- No

Comments: It is premature to develop compliance levels at this time.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: The reference to prevent is related to real time monitoring and mitigate is related to operational planning analysis ? These requirements should be made clear.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It is premature to develop compliance levels at this time.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: We are unclear as to who should be approving a mitigation plan. Procedures should be identified that include mitigation plans. The requirement should be changed to reference procedures not mitigation plans.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It is premature to develop compliance levels at this time.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: We are unclear as to who should be approving a mitigation plan. Procedures should be identified that includes mitigation plans. The requirement should be changed to reference procedures not mitigation plans.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It is premature to develop compliance levels at this time.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: This requirement needs to be developed following the work of the NERC OLD TF.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: It is premature to develop compliance levels at this time.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: This requirement needs to be developed following the work of the NERC OLD TF.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: It is premature to develop compliance levels at this time.

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: It is difficult to assess what additional requirements should be captured in this standard without a full compliment of standards to review.

If yes, please identify what you feel should be added.

Our overall concern is that this that a) requirements for real time analysis and operational analysis need to be defined independently, b) requirements for real time data and modeling data need to be defined independently and c) levels compliance should only be determined once the requirement has been well defined and agreed to.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

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STD Commenter Information (For Individual Commenters)
Name
Organization
Industry Segment #
Telephone
E-mail

Key to Industry Segment #'s:
1 – Trans. Owners
2 – RTO's, ISO's, RRC's
3 – LSE's
4 – TDU's
5 - Generators
6 - Brokers, Aggregators, and Marketers
7 - Large Electricity End Users
8 - Small Electricity Users
9 - Federal, State, and Provincial Regulatory or other Govt. Entities

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: Southern Company Transmission		Group Chair: <i>Todd Lucas</i> Chair Phone: 404-506-3564 Chair Email: telucas@southernco.com
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Chris Wakefield</i>	<i>Southern Co</i>	<i>1</i>
<i>Todd Lucas</i>	<i>Southern Co</i>	<i>1</i>
<i>Joe Payne</i>	<i>Mississippi Power Company</i>	<i>1</i>
<i>Travis Koval</i>	<i>Southern Co</i>	<i>1</i>
<i>Bill Pope</i>	<i>Gulf Power Company</i>	<i>1</i>
<i>Brian Mitchell</i>	<i>Southern Co</i>	<i>1</i>
<i>Mike Miller</i>	<i>Southern Co</i>	<i>1</i>

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

Any entity that is operating or has functional control of a transmission system should be required to have offline as well as real time analysis tools.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

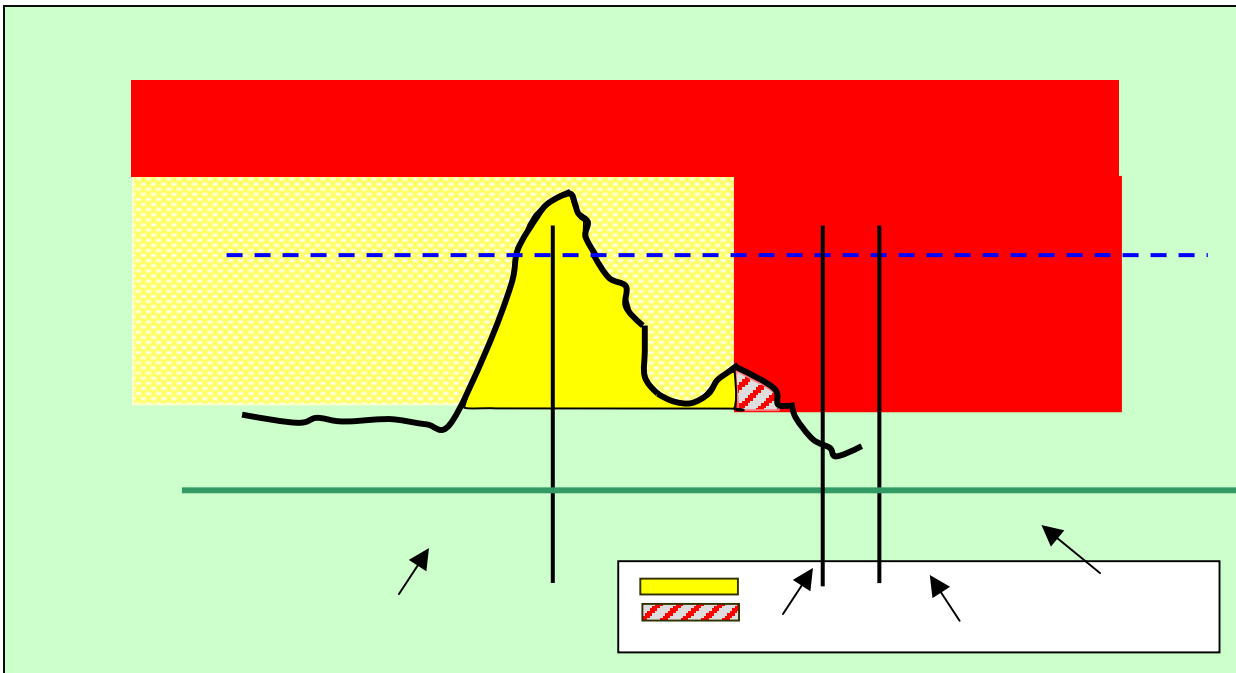
Do you agree?

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Yes

No

Comments: Agree as long as this does not lead to a new industry accepted format or a change in the currently accepted formats currently used for data exchange.



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: The results from the OLDTF may create the need to review this.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: Operating in such a manner that instability, uncontrolled separation, or

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cascading outages will not occur to more than a localized area is a non-reportable OSLV

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Non-reportable Operating Security Limit Violation

Reportable Operating Security Limit Violation

If possible, please provide us with a definition for each of these terms.

Non-Reportable OSLV: Operating outside the thermal, voltage, or stability criteria that defines the Operating Security Limit, but operating such that instability, uncontrolled separation, or cascading outages will not occur to more than a localized area as a result of the most severe single contingency.

Reportable OSLV : Operating outside the thermal, voltage, or stability criteria that defines the Operating Security Limit, such that instability, uncontrolled separation, or cascading outages could occur to a widespread area as a result of the most severe single contingency.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Measures should be based on the RA's ability to monitor the appropriate data and operating limits, not necessarily the availability of telemetry data. What does the term "Actual" imply in reference to real time data?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The levels of non-compliance should be based on whether you have sufficient and appropriate data regardless of the means for gathering the data to compare and evaluate conditions in terms of operating limits and are you monitoring that data.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: Measures should be based on the TOP's ability to monitor the appropriate data and operating limits, not necessarily the availability of telemetry data.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: The levels of non-compliance should be based on whether you have sufficient and appropriate data regardless of the means for gathering the data to compare and evaluate conditions in terms of operating limits and are you monitoring that data.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Regardless of format, either the RA receives the specified data or not.

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: Data coordination between the RA & TOP should be required also.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Regardless of format, the TOP receives the specified data or not

² Reliability analyses includes both real time and operational planning analyses

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: A seven day lead time may not, in many cases, be sufficient lead time to incorporate new facilities or changes to existing facilities in models or perform revised analysis. There should also be a requirement to provide data in real time with measures related to timeliness and accuracy.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The RA should be required to cooperate with entities requesting data and should provide the "agreed upon" data in a timely manner. The RA should not be required to blindly provide data without an understanding of the need.

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: See comments for #18.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Until numbers 18 and 20 are resolved the levels of non-compliance cannot be determined.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: See# 18 comments. Also, is this requirement #7 necessary? What facilities, (lines, generators, etc.), will an Interchange Authority have that requires energization?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Until numbers 18, 20, & 22 are resolved the levels of non-compliance cannot be determined.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: See #18 comments.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Until numbers 18, 20, 22 & 24 are resolved the levels of non-compliance cannot be determined.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: See #18 comments.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Until numbers 18, 20, 22, 24, & 26 are resolved the levels of non-compliance cannot be determined

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: The RA itself cannot take direct action to prevent/mitigate potential problems. The requirement should be that the RA notify the responsible parties that can take direct action.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The levels of compliance should be tailored to the requirement for notification by the RA to prevent/mitigate OSLVs and/or instability, uncontrolled cascading, etc.

Consideration should be given to combining requirements 12 & 14.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: Need to clarify how conflicting results from an RAs analysis vs. the TOPs analysis will be resolved

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Need to clarify the difference between “limit violations” and “violations”. Non compliance should be structured around OSLVs.

Clarification is needed for “no action”. There may be cases where taking no action is the appropriate response

How will compliance be monitored for cases where no violations occur?

Consideration should be given to combining requirements 13 & 15.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Need clarification of the responsibilities. Mitigation plans are the joint responsibility of the RA, TOP, & TO and should be jointly developed

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 36 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Need clarification of the responsibilities. Mitigation plans are the joint responsibility of the RA, TOP, & TO and should be jointly developed

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: Agree assuming reporting requirements are commensurate with comments for question 6 & 7.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: See comments for question 6, 7, & 40.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: See comment for #40

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments for #40.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

There are differences in the interpretation and response to limit determinations and violations among the interconnections and Regions.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

1) The OLDTF has definitions that need to be considered prior to finalizing this standard.

2) Operating limits should not be tied to equipment ratings violations.

3) Confidentiality of data needs to be addressed. Transmission line flows and generator outputs have commercial implications in real-time market-based systems. The Standard should recognize this concern.

4) The standard should incorporate requirements to provide “real time” data as indicated in earlier comments.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

General Comments: An adequate review of any of the standards requires a significant effort. A 30 day comment period does not allow for appropriate review and well thought out feedback.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

47. If you have comments on the format of the standard, please share them with us.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)

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Industry Segment # 1 & 3
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Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

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Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: We agree as long as "other changes" includes day-to-day significant changes to the bulk transmission system.

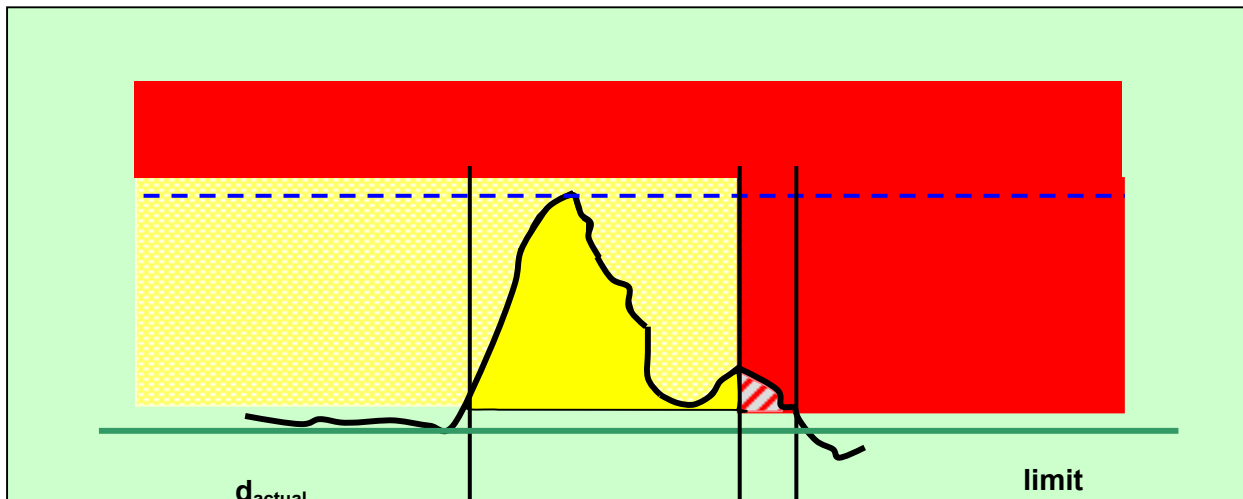
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

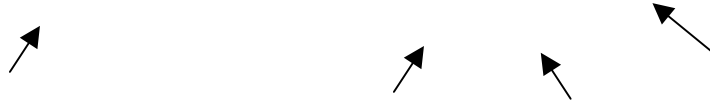
Yes

No

Comments: We agree as long as the term "generally accepted" implies that the format is specific but that the acceptance is by the majority of the industry.



STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA**
- TOP**
- Generator**
- Planning Authority**

Comments Although we checked both the BA and the Generator as possible sources, we feel that the information provided to the RA should be supplied by the Generator with a carbon to the BA.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA**
- BA**
- Generator**
- Planning Authority**

Comments Same comment as for number 8.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: However, this only addresses non-compliance on the part of the RA. There

¹ Reliability analyses includes both real time and operational planning analyses

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should be a similar non-compliance penalty that would apply to those to whom the request is made. Requirements 6, 7, 8 and 9 do not parallel entities responsibility to provide information on a day-to-day basis.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: However, this only addresses non-compliance on the part of the TOP. There should be a similar non-compliance penalty that would apply to those to whom the request is

² Reliability analyses includes both real time and operational planning analyses

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made. Requirements 6, 7, 8 and 9 do not parallel entities responsibility to provide information on a day-to-day basis.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We agree with the levels, however we are curious as to the difference between Level 2 and Level 3. If these mean the same, then one should be eliminated. Perhaps there should be a definition of both a "limit violation" and "violation".

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We agree with the levels, however we are curious as to the difference between Level 2 and Level 3. If these mean the same, then one should be eliminated. Perhaps there should be a definition of both a "limit violation" and "violation".

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: However, because of varying system usages and configurations the entity should not be in non-compliance if the mitigation plan is not entirely prescriptive. The mitigation plan may point to a range of actions that could be taken to resolve given problems.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: However, because of varying system usages and configurations the entity should not be in non-compliance if the mitigation plan is not entirely prescriptive. The mitigation plan may point to a range of actions that could be taken to resolve given problems.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: The requirement of "within 72 hours" seems to be rather quick.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: Throughout this SAR, the requirements of the RA and TOP have been pretty much mirrored. However this one seems to be very vague. To some degree Requirement 17 should parallel Requirement 16.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: However, the term "documentation" needs to be better defined since this Requirement is so vague.

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: We really do not have a preference. We can operate with either form.

47. If you have comments on the format of the standard, please share them with us.

Comments:

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1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this "base data" that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: This assumption will not minimize unnecessary documentation. To be able to measure, one would have to identify the "Base Data" in order to determine what has changed. There will need to be documentation on the Base Data as well. The Standard should not assume some required Data is monitored or measured outside the Standard.

4. The draft standard uses the term "Industry Accepted Format" to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

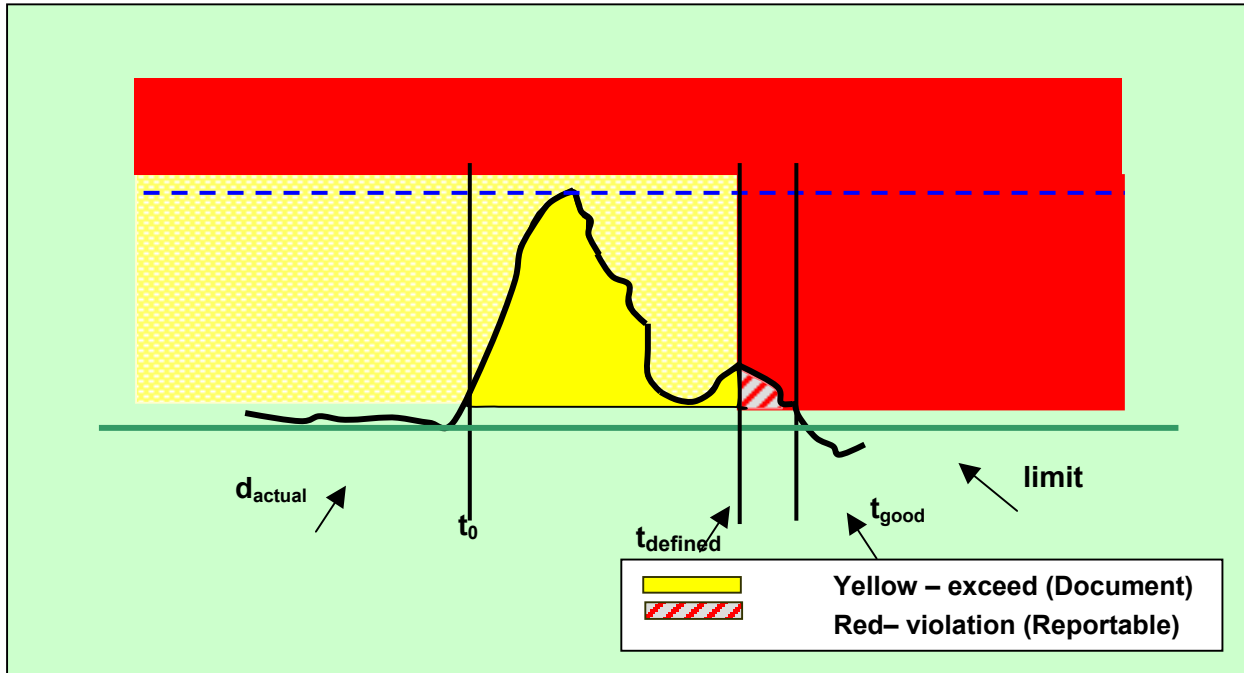
Do you agree?

Yes

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No

Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments:

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments:

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: This Requirement should define all data required, not just changes.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: This Requirement should define all data required, not just changes.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

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Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Concern: If this is real-time operational data, the communication links may take 30-90 days to establish. Requirement #3 and Requirement #4 require RA and TOP to request specific data requirements. This must be timely to achieve this Requirement #5.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: The RA/TOP should already have all required data as stated in Requirement #3 and Requirement #4.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: The RA/TOP should already have all required data as stated in Requirement #3 and Requirement #4.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: The RA/TOP should already have all required data as stated in Requirement #3 and Requirement #4.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: The RA/TOP should already have all required data as stated in Requirement #3 and Requirement #4.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: #2 should state that a system operating limit was exceeded, but no violation. #3 should state that a system operating limit violation occurred.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: #2 should state that a system operating limit was exceeded, but no violation. #3 should state that a system operating limit violation occurred.

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Should read: To prevent or mitigate system operating limit violations.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Should read: To prevent or mitigate system operating limit violations.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: Would be good to expand Measure #1 to include an annual summary report that identifies all limit exceedences, duration and number of events.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

Need to define when operations transfer to "Abnormal and Emergency" Standard Requirements.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

48. Please list any other comments you may have in the space below.

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: My understanding of the process is that for a RA or TOP to be certified they would need to demonstrate among other things that they already have the required “base” data. Thus this standard only covers changes/new additions. However, the standard does not define what is existing. Included in the standard should be a definition of existing facilities. It is recommended that the following or something similar be added to clearly define existing facilities. “Facilities that are already energized as of the day the standard is approved or the date the RA or TOP is certified are considered existing facilities.”

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

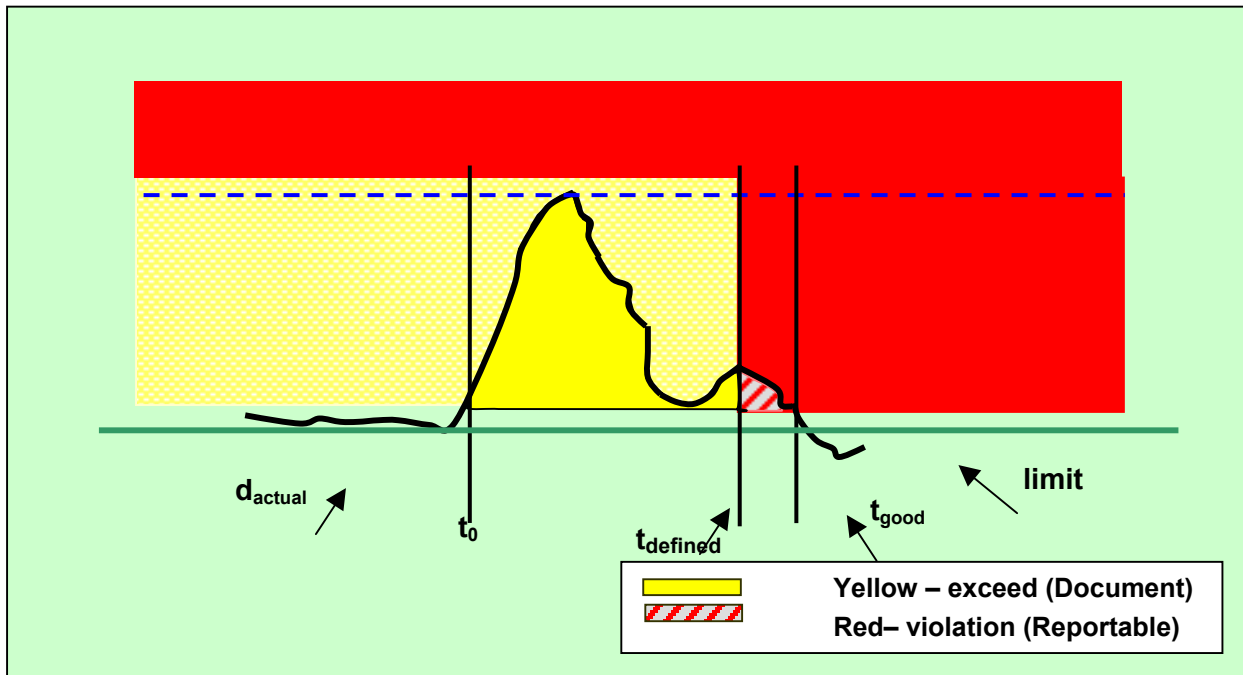
Do you agree?

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X Yes

No

Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: The graph is not clear and does not define whether a normal or emergency operating limit is exceeded. The graph appears to indicate that the loading on a line is not a reportable violation if the load is reduced to the normal or acceptable level within a defined period of time. If the loading on the line is within the yellow range because of normal flows on an intact system and the next single contingency causes the loading to increase to a level that causes instability, uncontrolled separation or cascading outages then I would consider operation within the yellow zone a reportable violation.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

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Yes

No

Comments:

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

See comments on question 3.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

X Generator

Planning Authority

Comments There should only be a single area responsible for maintaining data necessary for system analysis. The more often the same data is requested by multiple entities the more likely errors can occur. Also, the more often data is passed from entity to entity the more often errors can also occur. I would recommend that the RA be the central location for all data. All requests for data should go to the RA who would provide all responses.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

X RA

BA

Generator

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Planning Authority

Comments See question 8.

Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (Bas), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: The "data" that is to be requested is not defined. As part of this standard one should be able to initially define a handful of key data elements that are required. These key elements would include the minimum information required to support reliability analyses. See question 47 for additional comments.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

¹ Reliability analyses includes both real time and operational planning analyses

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No

Comments: Without certain data the RA cannot perform one of its primary functions, that of reliability analysis. I would support a level 4 non-compliance if the RA does not request these key items.

Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: See comments on question 14.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

² Reliability analyses includes both real time and operational planning analyses

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17. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: See comments on question 15.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

- Yes
 No

Comments: See comments on question 26.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: See comments on question 27.

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: See comments on question 26.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments on question 27.

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: See comments on question 26.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments on question 27.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: See comments on question 26.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments on question 27.

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: The standard does not spell out the "data" required. There are certain key items which at a minimum are necessary to perform reliability analysis. These should be enumerated and a part of this standard. See further comments in questions 14 and 47.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: There is only 1 level of non-compliance, level 4 and no definition of the data required. If certain key items of "data" were defined as part of the standard and they were not provided, a level 4 non-compliance would be appropriate. If these items were provided, however they were only provided 2 days before energization a level 3 non-compliance might be appropriate. Similarly, if the data on the key items were provided 3 to 7 days before energization a level 2 non-compliance might be appropriate. See further comments in question 47.

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: There are two portions of the bulk transmission system that must be analyzed for reliable operation. One is the portion that involves inter-regional or major regional areas and the other involves sub-regional or more localized areas. Having one entity trying to address both could result in items being overlooked. The RA should be responsible for the overall regional and interregional system. The TOP should be responsible for the sub-regional and local system which generally consists of the system operating at less than 200 kV.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Of major concern is the case where a critical element has been forced out of service. Having the reliability analysis not run within 24 hours is not acceptable under these conditions. The real time system should not have to run "blind" for more than 24 hours. This should be classified as level 4 non-compliance. Also levels 1 & 2 should be classified as levels 2 & 3.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: See comments on question 28.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments on question 29.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 4 as presently defined indicates that instability, uncontrolled separation or cascading outages have already occurred. This might be akin to locking the barn after the horse is out. We should be a level 4 if the potential exists, not after it happened.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments on question 33.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

The standard refers to "data" which is to be requested or provided. However what constitutes this data is vaguely defined or undefined. Certain key items which constitute part of this data need definition either as part of the initial issuance of this standard or as part of the next revision. See comments in question 47.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: Version B collects all the requirements for each entity in one location. Version A is could result in an entity accidentally overlooking a requirement since they have several sections in which to look.

47. If you have comments on the format of the standard, please share them with us.

Comments: Other standards organizations include a table of contents as part of the standard. This standard should also include a table of contents.

In section 201 (a) Requirement, each item should be identified by a number and this number should be correlated with the other subsections of 201. For example, the first requirement (a) covers monitoring and under (b) Measures the monitoring requirements should all be grouped together and

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assigned the same number as the requirements. Similarly, the second item under requirements (a) data collection and specification should be listed as item two under (b) Measures. [In this draft it is number three] This format should be continued for subsections (c), (d), (e), (f) and (g). Note that under (d) Regional Differences the same comment could apply to all the requirements.

The fourth item in Section 201 (a) covers notification of the Compliance Monitor when data is not provided. In the long form of this standard, this item is included as part of the data specification and collection. This item should be combined with the second item in this section. Similarly, the third item should be combined with the second item.

Version B combines most of the RA requirements in Section 201, however the requirements for a mitigation plan and for documentation of instances of exceeding limits are still in separate sections 203 and 205. For consistency in combining all RA requirements together sections 203 and 205 should be combined into section 201. This same comment also applies to TOPs.

Sections 208 to 211 cover the responsibilities of Balancing Authorities, Interchange Authorities, Transmission Owners and Generator Owners to supply data covering new facilities or modifications to existing facilities. Sections 207 covers the same requirements for the Reliability Authority to provide data to associated (adjacent) Reliability Authorities and/or Transmission Operators. Although it is beneficial to keep these sections on data together, it is not consistent with the goal of keeping all the requirements for each entity together in one section.

This standard requires generator owners to supply data as requested to the requesting RA or TOP no less than 7 days prior to energization of new facilities or changes to existing facilities with a level 4 non-compliance if this data is not provided. This is not acceptable. The standard does not spell out the data required, it is left up to the RA or TOP to determine. Some data such as winter ratings is not crucial to system operation and associated level 4 non-compliance along with the sanctions for this level of non-compliance is simply not appropriate. What may be acceptable is to classify non-compliance with this standard as written as level 1. A future revision to this standard including an itemized listing of the specified data could then be developed along with appropriate levels of non-compliance. For example, generator data for dynamic stability provided between 5 and 7 days before energization could be given a level 1 non-compliance.

I also noted several typo's in the section numbers.

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1. The draft standard uses the term 'data' to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: The the term "data" should be explicitly defined and quantified. Consideration should be given to establishing a minimum performance or accuracy and frequency criteria for the "calculated values" and accuracy and frequency criteria of telemetered data values. Footnotes should be repeated at least once for each requirement to remind the reader of the definition.

2. The draft standard uses the term 'Reliability Analysis' to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

1) What is the scope of the term "real time"? The footnote appearing on pg.1 of Version A defines "real time" but it is still not clear if this is restricted to data extracted from the Energy Management Systems, and does a reference to "real-time" conceptually imply data, or processes, or both?

2) What is the definition and scope of "operational planning analysis"?

3) Why isn't there a standard for the TOP to provide telemetered data? There should be some type of performance standard established to assess the accuracy of telemetered data.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this "base data" that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

1) The data assumptions and the intent of this question are not clearly stated

2) The certification process for the RA/TOP is not the proper means to obtain correct modeling data. It may be appropriate for real-time metering data, but much of the static data for system modelling

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and analysis is the same as the planning function. It should be consistent with those modelling requirements also.

3) All assumptions should be listed in the Standard's document.

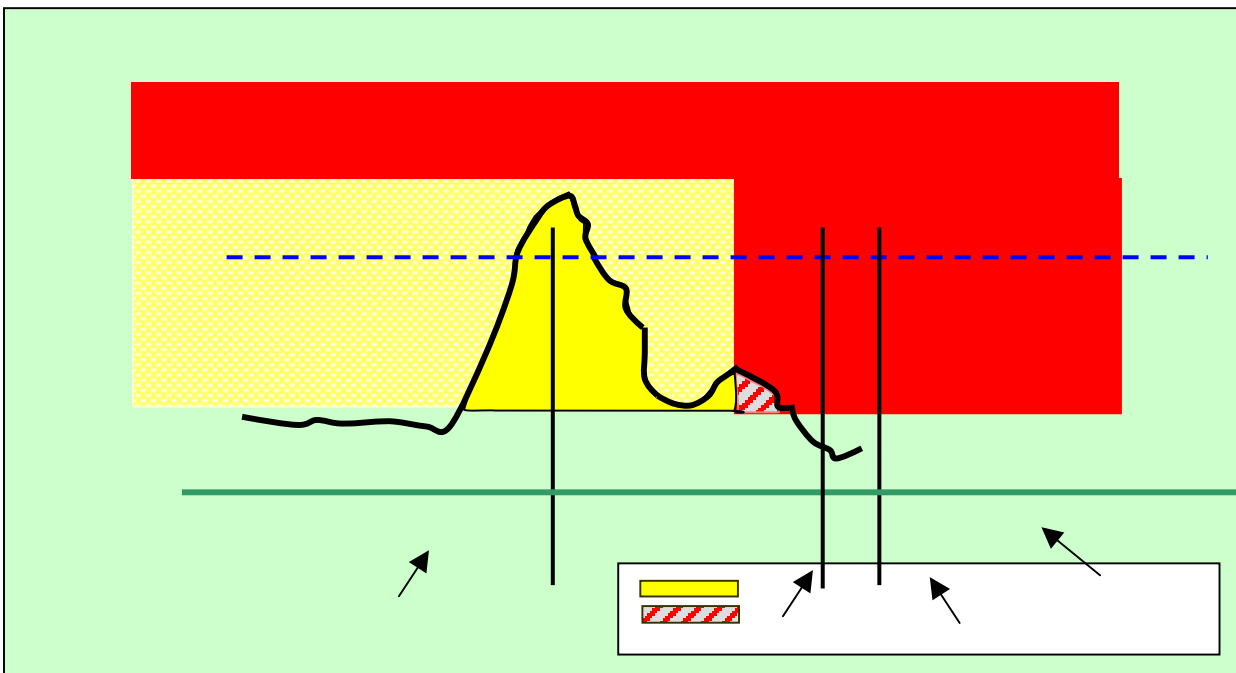
4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

Yes

No

Comments: ...as long as this does not lead to the creation of another "industry accepted format" or require a significant change from the way data has routinely been exchanged in the past. (typically using PSS/e or PSLF powerflow raw-data formats for representational data, etc.)



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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: Wait until the OLDTF work is complete.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: Wait until the OLDTF work is complete.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Real Time

Self-Certification

Instability

Cascading Outages

Uncontrolled Separation

Actual telemetered data, or real-time data?

Real-Time Monitoring

Frequency of Real-Time Monitoring

System Operator Limits

Equipment Ratings

If possible, please provide us with a definition for each of these terms.

For TOPs, system operating limits should not only include those limits which have been identified as leading to cascading outages, instability, or uncontrolled separation, but also local operating limits. This is a major issue in terms of the scope. As conceived, this standard does not result in any entity assuring that the bulk power system is operating within limits. It only results in operating within those limits for which violations result in instability/cascading outage risk. That is inappropriate. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby requiring consistent monitoring and adherence, should be covered by this standard.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments The term generator needs to clearly specify that entity responsible for the generator resources. The real-time generator data should be provided by the generator to the TOP and RA; modeling data should be provided by the generator to the PA and RA.

9. Who should provide the TOP with generation data needed for system analyses? (This

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data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments 1) What do you mean by "system analysis"?

2) What type of "system analysis" is the TOP supposed to perform?

3) Are you referring to Generator Owner or Generator Operator or both above?

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: 1) What is the data provider's responsibility regarding provision of data to RA? Is the RA subject to non-compliance if the data provider's tools fail?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: 1) Levels 1 and 2 imply that use of substitute data is unacceptable.

2) The only important level of non-compliance listed above is level 4.

3) There seems to be no penalty for failing to identify a System Operating Limit. If an entity identifies limits and then does not monitor them, then the entity is subject to a greater penalty than an entity who fails to identify the limits. Need a process to identify SOLs and to assess system conditions, both real-time and forecast. The measures should be: a) do you have the data; b) do you have the limits; c) are you monitoring the data.

4) What does "surrogate value" mean? Levels 1 and 2 should be rewritten to consider the suggested measures listed in these comments.

5) Loss of telemetry for short periods is an unfortunate but routine matter - with all that telemetry equipment in the field, it cannot be expected that none of it ever have downtime.

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6) The measures and levels of non-compliance should be re-evaluated to insure the achievement of the overall objective of this requirement.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

- 1) Levels 1 and 2 imply that use of substitute data is unacceptable.
- 2) The only important level of non-compliance listed above is level 4.
- 3) Loss of telemetry for short periods is an unfortunate but routine matter - with all that telemetry equipment in the field, it cannot be expected that none of it ever have downtime.
- 4) If this requirement is changed as suggested above, then there should be some type of measures defined to capture the need for a certain level of observe-ability and accuracy of the telemetry data. The TOP should also have a list of identified limits on the SCADA system that is being monitored on a periodic basis. The TOP should also have a list of "RA assigned" Operating Security Limits identified by the RA and instructions on mitigation actions to perform if the OSL is

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reached and/or violated.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: The collection and processing of the data requirements could be a RA data management responsibility.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

¹ Reliability analyses includes both real time and operational planning analyses

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Comments: These levels of compliance need additional work. For example, the RA could incur a level 1 violation if it requested only a single data item (of 1000+ items) incorrectly. Higher levels of non-compliance should indicate that an SOL has been misidentified or violated.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

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Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Define "associated". The language is not clear enough. For example, some might interpret the requirement to read differently than others (as follows) - A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: The language is not clear enough. See number 18 comments, it is not apparent the types of data being referred to in this requirement. Clarification is needed to specify the required data - from testing, real-time operation, engineering specifications, manufacturer's specifications, etc.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Until numbers 18 and 20 are resolved (clarification of language), the levels of non-compliance cannot be determined.

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: Clarification language is necessary. Same as 18, 20, 21 above.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See 22.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: See 22.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See 22.

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Clarification language is necessary. Same as 18, 20, 21, 22 above.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See 26.

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: 1) Language needs clarification to identify the type of analysis required. Also, define the periodicity of the analysis - how often it needs to be performed.

2) The RA should ensure that this function is performed (but it would not necessarily do it itself). There should be some provision for the analysis to be performed by a third party.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: 1) Number 28 needs to be addressed before non-compliance can be determined.

2) Based on the time frames specified, the levels of non-compliance imply different compliance than the requirement does. Clarification should consider is the requirement based on real-time operating concerns, or is it based on a short-term reliability/scheduling concern?

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: There should be some provision for the analysis to be performed by a third party.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See 30.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: Change the wording from "take actions necessary" to "direct actions necessary". This requirement is actually 2 requirements - the action and documentation of the action. The requirement/measure should be separated into two separate requirements.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: What is the difference between levels 2 and 3?

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: 1) See 32. 2) How are conflicting results from an RAs analysis vs. the TOPs analysis to be resolved?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: What is the difference between levels 2 and 3?

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: 1) The use of the word "approved" needs to be clarified. Who approves the plan?

2) Since System Operating Limits are still being developed, it is premature to use this term in the requirement. The requirement should be worded in such a way that does not use the term.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 36 needs to be addressed and resolved before the levels of non-compliance can be determined..

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: See comments for question 36.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 38 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: Delay this requirement until the OLDTF collaborates with the SDT to define "operating limits". These new limit definitions must also go through the standards process before formal implementation.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 40 needs to be addressed and resolved before the levels of non-compliance can be determined.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: See 40.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Question 42 needs to be addressed and resolved before the levels of non-compliance can be determined.

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

Standards need to be written to accommodate regulatory jurisdictions and the differences that exist between them. In certain jurisdictions, third party disaggregated functions will not be allowed, or will not be allowed to perform in the same manner as in other jurisdictions.

The work of the OLDTF has shown that there are differences in the interpretation and response to limit determinations and violations among the interconnections and Regions. The Standard and its compliance measurements should not dictate whether a particular RA should operate in a predictive or a responsive mode (i.e., take action in advance to prevent an overload based on predictive analysis, or take steps to mitigate an actual overload only on occurrence).

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

1) The OLDTF has definitions that need to be considered prior to finalizing this standard.

2) Operating limits that should be secured should include voltage collapse transfer limits in addition to equipment ratings violations.

3) Confidentiality of data needs to be addressed. Transmission line flows and generator outputs have commercial implications in real-time market-based systems. The Standard should recognize this concern.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: Version B is more clearly written than Version A and is easier to follow. Entities that are responsible for complying with this standard will find it easier to determine what is required of them for

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compliance. In addition, the levels of non-compliance are spelled out more clearly; there is less room for interpretation.

47. If you have comments on the format of the standard, please share them with us.

Comments:

1) Subtitles should be added to sectionalize the standard and a table of contents added.

2) Since all references to functions, such as, RA, BA, PA, TOP, etc. are listed in standards documents as "entities" for convenience, all NERC standards documents should contain a clarification statement explaining that the functions are not organizations and that all references to the functions should be interpreted as "entities responsible for --- function".

3) All assumptions should be listed in the standards document.

4) Footnotes of definitions should be repeated for each requirement write-up.

5) There should always be at least two levels of non-compliance defined.

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: "Data" should include manually entered values inputed from information received from person stationed at the site to monitor equipment.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

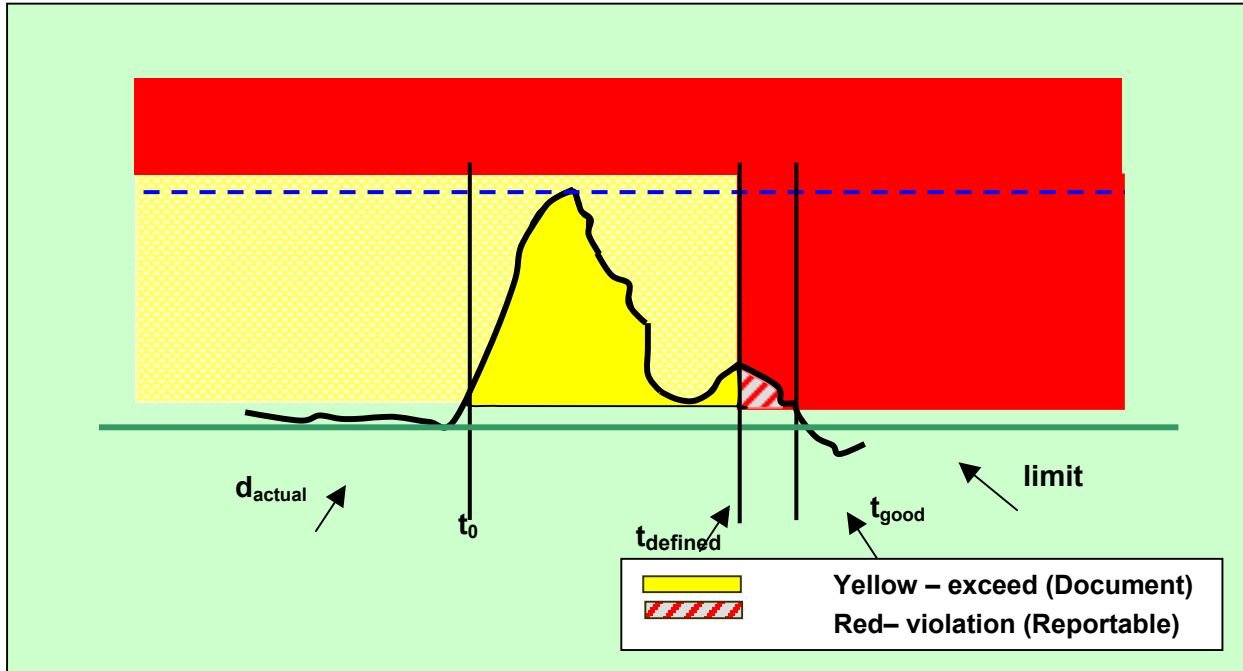
Do you agree?

Yes

No

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Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

- Yes
 No

Comments: The visual is a good follow up to a limit violation but needs text to document what the chart is for, without these questions the chart is of little usage. Chart leaves question as to the actual exceeding of the operating limit, label placement would allow for individual interpretation, is the limit the heavy green line, the demark between the green background and the red and yellow areas?

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

- Yes
 No

Comments: The red area above the yellow background area is not a violation, violation only exist after predetermined time frame above limit is exceeded, $t_{defined}$.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments Generator would be the best being they are the owners of the data. Standard however should allow for the data to be provided to a TOP and then relayed to the RA.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments Providing data to the TOP would allow redundancy in the communication paths to the RA.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: The requirement is reversed, the actual real time data that should be monitored and compared to the system operating limits

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The levels of Non-compliance are measurements of the communication system not the actual requirement, does not allow for using surrogate values such as state estimation or manually requested values to be used without the RA being at a level of non compliance.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: First the requirement is reversed, the actual real time data that should be monitored and compared to the system operating limits. Second operating limits set in the SCADA or EMS are not commonly changed from day to day to match current.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Again the Non- compliance levels are is a monitoring of the communication system rather than a measure of how the system is being operated.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: Defination for technically accurate data needed.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

² Reliability analyses includes both real time and operational planning analyses

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Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Model updates are extremely necessary, however there may be times that temporary changes are made to get some equipment back in service by reconfiguring the system. Would there be a violation if that equipment was placed back in service before the 7 day notification took place?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: Model updates are extremely necessary, however there may be times that temporary changes are made to get some equipment back in service by reconfiguring the system. Would there be a violation if that equipment was placed back in service before the 7 day notification took place?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

- Yes
 No

Comments: In general I agree with the requirement. Model updates are extremely necessary, however there may be times that temporary changes are made to get some equipment back in service by reconfiguring the system. Would there be a violation if that equipment was placed back in service before the 7 day notification took place?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: In general I agree with the requirement. Model updates are extremely necessary, however there may be times that temporary changes are made to get some equipment back in service by reconfiguring the system. Would there be a violation if that equipment was placed back in service before the 7 day notification took place?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Model updates are extremely necessary, however there may be times that temporary changes are made to get some equipment back in service by reconfiguring the system. Would there be a violation if that equipment was placed back in service before the 7 day notification took place?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: Requirement are being duplicated between RA's and TOP's The standard should require that the realibility analysis is being done by one or the other. It should not be necessary for both to duplicate the efforts

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: Requirement are being duplicated between RA's and TOP's The standard should require that the realibility analysis is being done by one or the other. It should not be necessary for both to duplicate the efforts. The RA in our case has a much better view of the setup and transactions taking place across the grid. TOP view of the world would be very limited in comparison.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Duplicated effort of thr RA in standard 210

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: Requirement 12 and 13 duplicate activities between the RA and the TOP's. In general I agree with the requirement but only one entity should be required to fulfill requirement.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level four as needs to be rewritten to only include action not taken on the part of the RA and exclude items outside control.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: Duplicate of requirement 12

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Needs to be rewritten to include only lack of action on the part of the TOP.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Use of mitigation plan from past similar system conditions need acceptable, new documentation need not be prepared for each new occurrence of a similar condition.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: Cannot agree without knowing the complete defination of "exceeding identified system operating limits" is.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Under some complicated conditions the 72 hours time limitation is too restrictive to investigate, and supply anything more than a preliminary report of a violation. More time could be required to investigate, compile, and supply the complete documentation of a violation.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: This requirement is too restrictive and would require maintaining a living alarm program to take into account the actual ambient temperatures, actual loading level for rating of equipment that varies by temperature changes. Many alarm levels are set at a temperature extreme and the operators compare the actual temperature and loading to the acceptable level at the given ambient temperature. Alarm files could not be used as a legitimate violation file.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

OTHER COMMENTS: 202 (a) Requirement section. Under "The TOP shall:" the fifth bullet needs to be removed or reworded. If the bullet is not removed, a suggested wording would be: Operate within equipment ratings or system operating limits determined by the Reliability Authorities' short-term reliability analysis. (The wording change needs to reflect the fact that the TOP may not have the information that would be needed from other utilities to perform an effective bulk transmission analysis. The Reliability Authority should have the information to do such an analysis and provide the TOP with any limits.)

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Wording in 202 (b) Measures, 202 (c) Outcomes, and 202 (e) Compliance Monitoring Process and 202 (f) Levels of Non-compliance may need minor changes to reflect the change in the 202 (a) Requirement section.

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: With the understanding that the footnote explanations will remain in place

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: Verification of "base data" should be included/required upon request on a case by case basis to validate studies

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

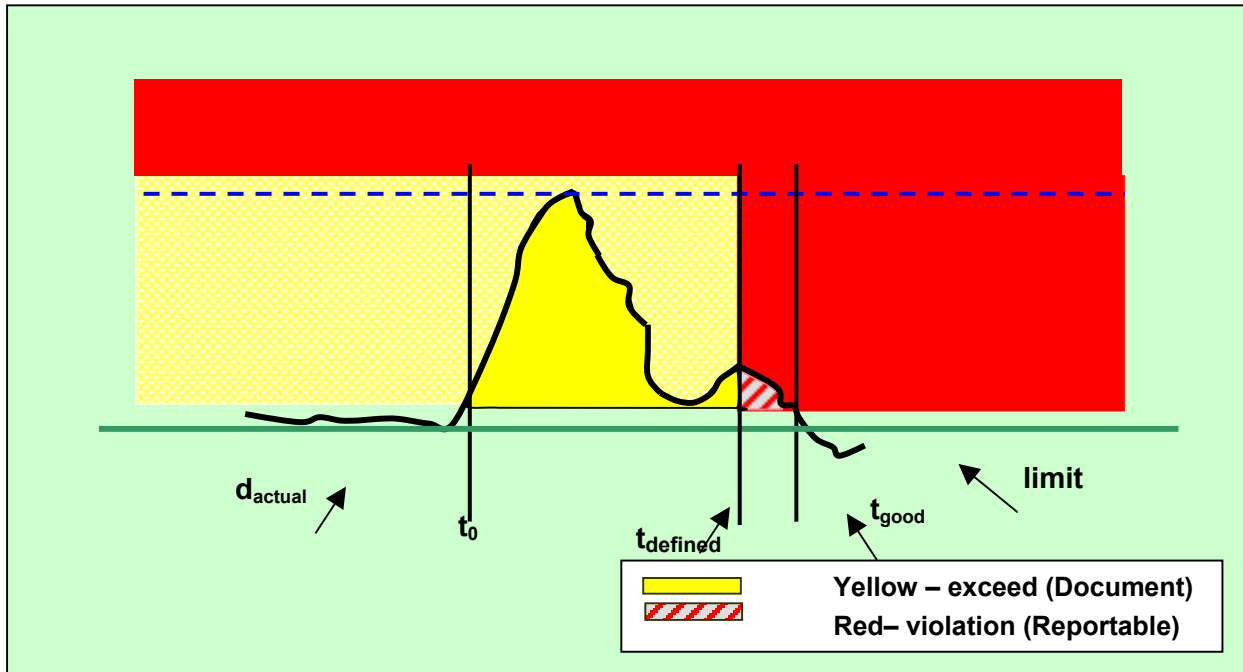
Yes

No

Comments: In cases where the data format is not stipulated by tariff or connection

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requirements, a mutually agreed to format be determined. In cases where parties cannot come to mutual agreement NERC should provide minimum standards.



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

- Yes
- No

Comments: The above graph is not clearly defined, cannot determine what kind of limit(s) are being demonstrated (thermal, stability). More clarification needed before the question can be answered.

Not sure why this is asked in this standard when one of the Explanations of Terms explains that the definitions of system operation limits and operating limit violations is being developed by the Facility Ratings SAR. Shouldn't the definition of a violation eliminate the need to ask this question?

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

- Yes
- No

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Comments: Same as comment #5

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

"Planned for Contingencies"

If possible, please provide us with a definition for each of these terms.

"Planned for Contingencies" as opposed to contingencies beyond criteria need to be included in this standard. It is common practice to only run operational reliability analysis by applying the "Planned for Contingencies" to the current system configuration. By not specifically addressing "Planned for Contingencies" the standard appears to require running multiple contingencies to find the unstable operating point.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments Either entity is OK

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: We have concerns with potential effects of thermal overloads, we believe that thermal limits need to be addressed and monitored. The explanatory text in parenthesis appears to exclude thermal limits.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should be revised to state that as long as limits are observable the RA is compliant. Level 4 needs to be clarified so that momentary telemetry problems (loss of telemetry) does not result in a level 4 violation.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: We have concerns with potential effects of thermal overloads, we believe that thermal limits need to be addressed and monitored.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should be revised to state that as long as limits are observable the TOP is compliant.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 2 "specification" needs to be clarified, is it referring to when, what or both?

¹ Reliability analyses includes both real time and operational planning analyses

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: Assuming data confidentiality will be addressed in future documents.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 1 non compliance appears to be saying that anytime errors are found and corrected the entity correcting the errors must be found non-compliant for the period before the

² Reliability analyses includes both real time and operational planning analyses

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error was found. Is that the objective of this requirement?

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Estimated data that describes equipment should be provided several months in advance of energization so that operational planning studies (12 months in advance) can be performed. Estimated data is probably adequate for the equipment energization provided as-built data is provided within a reasonable amount of time. We suggest one month after energization as a reasonable time frame for providing as-built data. "Estimated" versus "as-built" data should be defined.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level of non-compliance should be tied to the impact of changes to the system. As stated the level of non-compliance is equal for major and minor changes in transmission system configuration, levels of non-compliance should recognize the difference.

Non compliance should be tied to the standard time frame for supplying data.

Data maintenance is an on-going activity, the drafting team should recognize and address data maintenance and compliance implementation.

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: Do not understand the need for this requirement

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: Do not understand the need for this requirement

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: Estimated data that describes equipment should be provided several months in advance of energization so that operational planning studies (12 months in advance) can be performed. Estimated data is probably adequate for the equipment energization provided as-built data is provided within a reasonable amount of time. We suggest one month after energization as a reasonable time frame for providing as-built data. "Estimated" versus "as-built" data should be defined.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level of non-compliance should be tied to the impact of changes to the system. As stated the level of non-compliance is equal for major and minor changes in transmission system configuration, levels of non-compliance should recognize the difference.

Non compliance should be tied to the standard time frame for supplying data.

Data maintenance is an on-going activity, the drafting team should recognize and address data maintenance and compliance implementation.

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Estimated data that describes equipment should be provided several months in advance of energization so that operational planning studies (12 months in advance) can be performed. Estimated data is probably adequate for the equipment energization provided as-built data is provided within a reasonable amount of time. We suggest one month after energization as a reasonable time frame for providing as-built data. "Estimated" versus "as-built" data should be defined.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: Although we agree with the need for the requirement we find the wording of this requirement to be somewhat ambiguous. The wording suggests that the RA or TOP is required to run studies until a cascading outage is found. We believe that the intent should be to analyze "Planned for Contingencies" and identify problems if any are found, but the wording does not state this. The RA should develop and document their "Planned for Contingencies" and should only be required to run reliability analysis to analyze these "Planned for Contingencies".

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: Although we agree with the need for the requirement we find the wording of this requirement to be somewhat ambiguous. The wording suggests that the RA or TOP is required to run studies until a cascading outage is found. We believe that the intent should be to analyze "Planned for Contingencies" and identify problems if any are found, but the wording does not state this. The RA or TOP should develop and document their "Planned for Contingencies" and should only be required to run reliability analysis to analyze these "Planned for Contingencies".

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Do not understand the difference between items 2 & 3 - clarification is needed.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: Although we agree with the need for the requirement we find the wording of this requirement to be somewhat ambiguous. The wording suggests that the RA or TOP will not take action unless instability or cascading outages are at risk. We believe that the intent should be to analyze "Planned for Contingencies" and identify problems, including equipment overloads above emergency limits, if any are found, but the wording does not state this.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Do not understand the difference between items 2 & 3 - clarification is needed.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: What entity is required to "approve" the mitigation plan?

Need to clearly state the scope of the plan required along with the level of detail required in the plan.

The outcome appears to require entities to prepare plans to address instability and uncontrolled separation only, this requirement should address "Planned for Contingencies".

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Requires better definition of violating, returning, and reset point for S.O.L.

What entity is required to "approve" the mitigation plan?

Need to clearly state the scope of the plan required along with the level of detail required in the plan.

The outcome appears to require entities to prepare plans to address instability and uncontrolled separation only, this requirement should address "Planned for Contingencies".

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments:

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STD Commenter Information (For Individual Commenters)

Name Peter Burke [on behalf of ATC's Dave Cullum, Dale Burmester, Francis Esselman, Paul Steinberger, Ron Stark, Harry Terhune, Jim Kleitsch]

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Industry Segment # 1

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Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

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Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: Agree as long as there is an acceptable definition provided during the certification studies for the required data needed for analysis. Concern that loss of any data will be seen as a violation when in fact data redundancy inherent in the system allows reliable operation of the system even with loss of some data.

The attempt to reduce the burden is appreciated.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

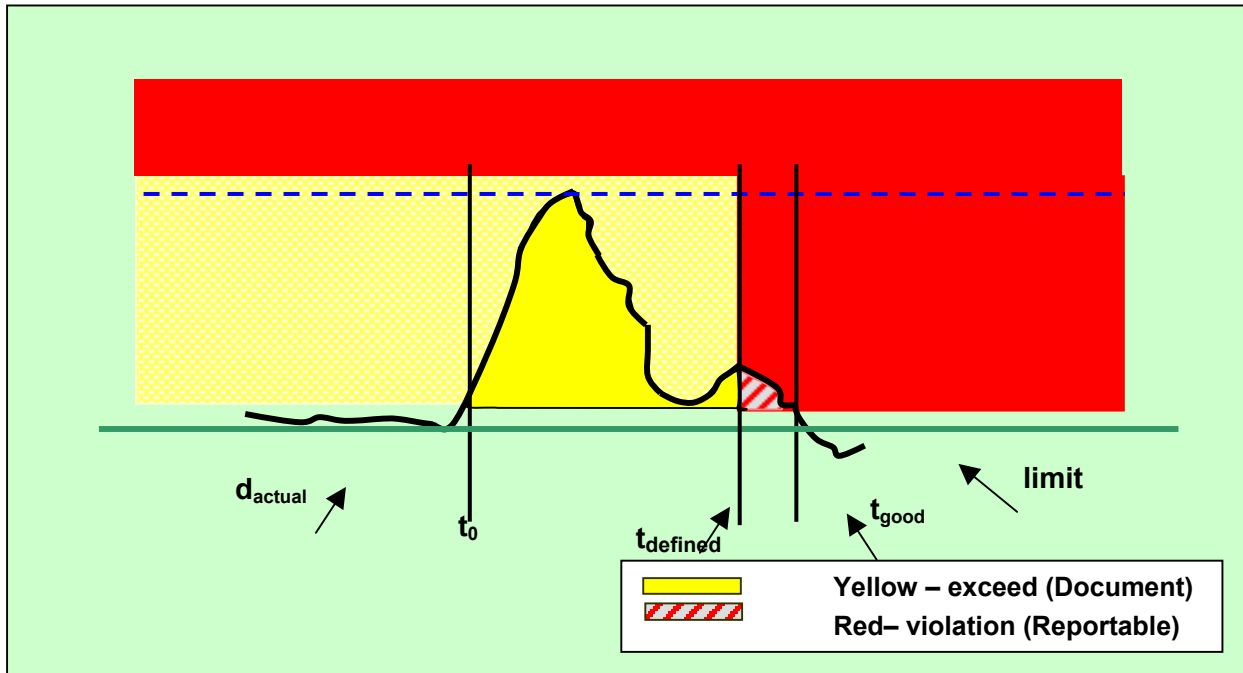
Do you agree?

Yes

No

Comments: Who will develop this "Industry Accepted Format" and what is the timeline for that development? Is there one "Industry Accepted Format" or are we at the mercy of industry giants who may want their "format" used? Is there another team working on development?

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5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes

No

Comments: This answer is "yes" but with the qualification that committing to "yes" depends on the eventual definition of an OSL, which is not available yet and is only now being developed by a different SAR drafting team.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

No

Comments: Cannot agree to this without some indication of the value of "t" in the graph. If "t" is one minute then the graph does not represent a reasonable reportable violation. If "t" is thirty minutes, then the graph may represent a reasonable standard for reporting.

7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

"Technically accurate"

"Single contingency." This standard needs to precisely define "single contingency." This standard, built on the premise of monitoring and assessing short term reliability, nowhere mentions the documentation or reporting of contingencies.

Within the Sanctions Table, how, precisely, does the enforcement entity interpret the phrase "greater of 4th consecutive period of violations?"

What are the "MW" that the fines per MW are based on? Is this the amount of MW affected or the estimated MW affected in the event of the next contingency? Can a fine be levied for the risk posed by a next contingency that threatens a large region even if the event of concern never occurs?

The section "Fixed Dollars," near the end of the standard, describes in very vague language how monetary sanctions may be adjusted. Left unsaid is who makes the adjustments, upon whose approval, and under what circumstances. The whole standard is put at risk of losing its meaning if this section is left in its current form.

It would be of value to include brief descriptions of the different functional areas, along with indication as to who does what, in the standard with a reference to the official definitions that are documented elsewhere. Such a reference would be helpful for someone not intimately involved with the standard or, particularly, the NERC Functional Model.

The use of the words "steam generator" in footnote 1 of Version B seems inconsistent with the industry accepted meaning of those words.

If possible, please provide us with a definition for each of these terms.

"Technically accurate" to the extent that the data supplied is consistent with the supplier's documented methodologies and criteria.

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8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA
- TOP
- Generator
- Planning Authority

Comments Generator should supply the current machine capabilities, including derating of MW or MVAR output capability.

Planning Authority should supply the full dynamics descriptions to be used in the off-line models.

All play a part in providing the proper data and depends upon the NERC Functional Model in place. Experience at ATC has shown this can be difficult with regard to keeping everyone informed and determining who is non-compliant or responsible for declaring an entity in non-compliance. ATC, especially, has had trouble keeping current on ownership of IP generators and working with the Regional Council to obtain timely generator data.

The Generator Operator/Owner should have this data and should be responsible for providing it to the RA. The Gen owner will be aware of changes to their equipment that others, including the Transmission Owner/Operator, would not be aware of. Also, from a liability standpoint, if you make someone else responsible for providing the data, what authority do they have to request it and who is liable for any costs incurred if the data is lost? In many cases, the TOP will also need the Generation data to perform their duties. In that case, it may be acceptable for the TOP to provide the data to the RA assuming all liability issues have been addressed.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA
- BA
- Generator
- Planning Authority

Comments With respect to the RA, it may be necessary to obtain this data for a unit outside TOP control when the unit has a major effect on the TOP system.

As stated above it seems the entity who owns and operates the Generator should be responsible for providing the data needed to maintain the reliability of the system. One would not want to be in a position where the data was delivered to the RA and then to the TOP as this potentially "stale" data could cause problems with the network

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applications on the EMS. (And it also introduces another point of failure in the data supply chain which increases the likelihood that the availability of the data will be less than required.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Agree assuming the MISO would be the RA for ATC in which case this requirement expresses what MISO would be expected to be doing.

Some accommodation should be made for new facilities for which it is sometimes difficult or impractical to have immediate operation of telemetering. There should be a grace period of something like three months following new construction.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 1 non-compliance is written "up to 24 hours." This suggests that anything, even a single missed scan, qualifies as non-compliance.

As worded there is a significant amount of room for interpretation as to what constitutes non-compliance. If MISO loses the ability to scan one reading from one RTU for a day, this should not be considered a violation. If an RTU is lost for a day, a decision needs to be made as to how critical the data is to reliable operations. If an entire ICCP link is lost, 10 minutes may be too long. That will most likely be a judgement call based on the data supplied via the link that is down and system conditions at the time of the failure (sunny and 65 degrees versus thunderstorms rolling through the system). This needs more work before using it to assign fines for non-compliance.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: I am not aware of many TOPs that have the tools needed to study voltage stability and/or transient stability for their systems in real time. MISO has these tools and is working to implement them. If the standard is implemented as written it will require a significant investment and development effort at many sites to put the necessary reliability monitoring tools in place. When done, we have duplication of effort and significant costs incurred with a limited benefit to the system.

I do believe that the TOP should be capable of monitoring its system and analyzing to make sure it can survive first contingency events and maintain operations within acceptable guidelines. This requires a functioning State Estimator, Security Screening/Contingency Analysis, and Online Power Flow.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Same as response provided for Question 11.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: There needs to be a mechanism in place to ensure that the RA is notified when system changes are made. This addresses the problems we've seen with lack of coordination between the people building/updating/etc.. facilities and the people responsible for the reliable operation of the system.

However, there is some concern about the documentation required. The amount of documentation needed to track all of the possible changes in data may overwhelm the RA if it oversees a significant portion of the interconnection.

What is meant by "it needs" in the statement "The Reliability Authority shall specify and collect the data it needs. . .?" A standard that imposes sanctions must be more specific about what is needed.

In the statement, "The RA shall notify the Compliance Monitor. . .," there's no mention of time frame, no specification of how soon after failure the RA must notify the Compliance Monitor.

This requirement should apply to Distribution Providers (DPs) in the same way it applies to

¹ Reliability analyses includes both real time and operational planning analyses

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BAs, IAs, Generators, TOPs, and "associated RAs."

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The phrase "some data technically inaccurate or incomplete" in level 1 would not apply to the RA. It would appear from the phrase "notation" in the "Measure(s)" section that level 1 compliance would hinge on whether or not the RA notified the supplier that the data should be accurate and complete, since that is the only part they have control over.

This requirement penalizes the RA for not asking for data that it may not know it needs. For example, if a TOP energizes a new station, how is the RA supposed to know that the station exists? If the RA doesn't know, it can't request data and can't tell that it's missing. The RAs do need a standardized way of requesting and receiving updates to allow them to maintain their models in a timely manner. Not sure the penalties as defined get us there.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: My understanding of the future relationship between RA and TOP may be incorrect (I think of the MISO as the RA and ATC as the TOP). However, I think that a TOP should not and will not span multiple RAs. In addition, the RA is given the ultimate responsibility for maintaining system security.

Because of these reasons, the TOP should not be getting data from BA, IA, Generator or other TOPs. Rather, the TOP should be getting the data from the RA. So, the requirement should instead enforce that the TOP maintains an accounting of the data it receives from the RA.

The majority of the data required by the TOP will be supplied by project/construction/system protection personnel from within the TOP organization unless the TOP is responsible for operation of other transmission systems. (ATC operating ALTW for example) Will they be required to document internal correspondence required to get the data needed for monitoring? The reason for disagreeing with the requirement is that there's no incentive for the people who know about the changes to inform the TOP unless they work for the same company. If a neighboring utility adds equipment that impacts a different TOP, how does the TOP know this is happening and how does the TOP incent the other company to let the TOP know ahead of time?

² Reliability analyses includes both real time and operational planning analyses

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The opening statement refers to "associated TOPs" but nowhere defines the difference between an associated TOP and any other TOP.

This requirement should apply to Distribution Providers (DPs) in the same way it applies to BAs, IAs, Generators, RAs, and "associated TOPs."

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: This requirement penalizes the TOP for not asking for data that it may not know it needs. For example, if a neighboring TOP energizes a new station, how is the TOP supposed to know that the station exists? If the affected TOP doesn't know, it can't request data and can't tell that it's missing. The RAs should be receiving this information and should be required to disseminate to parties as needed.

If this requirement is maintained as is, then the same comment made in response to question #15 applies. That is, the TOP should be non-compliant for not notifying suppliers of data that the information must be technically accurate and complete. The TOP has no control over whether or not the data supplied is accurate and complete and, therefore, level 1 compliance should be altered.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: Three concerns with this requirement:

1. TOP should not make requests, per response to question #16. Rather, the RA should make the requests and then hand that data down to the TOP.

2. This requirement and the others like it for the BA, IA, Generator and Transmission Owner (TOW) all state that the data should be supplied "as requested". That is needed but there should

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also be a requirement that RAs, IAs, BAs, Generators and TOWs should supply this information to one another, without a request, if the data has to do with major/critical facilities (i.e. an entity may not realize they should make a request.)

3. The requirement directs that data must be provided no less than 7 days in advance. Some new facilities can be significant so that 7 days in advance is not enough time for receiving data. In some cases, data for significant new facilities would be needed a season or a year in advance.

4. Estimated or approximate data should be acceptable prior to energization. "As built" data would be provided when available or when required telemetry is complete.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels of non-compliance would be better if defined something like:

1. Data for new/revised facilities was provided less than seven days prior to energization.
2. Data for new/revised facilities was provided before one month after but not before energization.
3. Data for new/revised facilities was provided before three months but not before one month after energization.
4. Data for new/revised facilities was not provided within three months after energization.

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: Same concerns as expressed in reply to Question 18. One entity may not know it should request information from another entity. There should also be a requirement on the entity where the change is occurring to provide that data, unrequested, to the other entities if it involves major/critical facilities.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Why do we go straight to level 4? Is it assumed that things are already working properly and that the penalty is being applied due to a lapse? If there are fines for non-compliance, are people incented to avoid paying fines by not energizing new equipment that's needed for reliability?

Levels of non-compliance would be better if defined something like:

1. Data for new/revised facilities was provided less than seven days prior to energization.
2. Data for new/revised facilities was provided before one month after but not before energization.
3. Data for new/revised facilities was provided before three months but not before one month after energization.
4. Data for new/revised facilities was not provided within three months after energization.

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: Same responses as provided to Questions 18 & 20.

(What new facilities would an IA be placing into service?)

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels of non-compliance would be better if defined something like:

1. Data for new/revised facilities was provided less than seven days prior to energization.
2. Data for new/revised facilities was provided before one month after but not before energization.
3. Data for new/revised facilities was provided before three months but not before one month after energization.
4. Data for new/revised facilities was not provided within three months after energization.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: Same responses as provided to Questions 18 & 20.

Some measure needs to be in place to make sure that the RA and TOP are notified in a timely manner that system changes are planned. This would be a challenge to meet initially as the processes are not in place to make this work well now.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels of non-compliance would be better if defined something like:

1. Data for new/revised facilities was provided less than seven days prior to energization.
2. Data for new/revised facilities was provided before one month after but not before energization.
3. Data for new/revised facilities was provided before three months but not before one month after energization.
4. Data for new/revised facilities was not provided within three months after energization.

There's no desire for penalties that dis-incent people from energizing new equipment but there's need for penalties that encourage early reporting. Not sure that 7 days will be needed once systems are in palce and incremental updates are being performed. There may also be a need for determining the impact of the facility addition to the system before determining penalties. (Should a new 200 MW generator going into service be penalized the same as a distribution tap serving 5 MWs of load? Probably not but this standard as written does not differentiate between the two.)

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: Same responses as provided to Questions 18 & 20.

Some measure needs to be in place to make sure that the RA and TOP are notified in a timely manner that system changes are planned. This would be a challenge to meet initially as the processes are not in place to make this work well now.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Levels of non-compliance would be better if defined something like:

1. Data for new/revised facilities was provided less than seven days prior to energization.
2. Data for new/revised facilities was provided before one month after but not before energization.
3. Data for new/revised facilities was provided before three months but not before one month after energization.
4. Data for new/revised facilities was not provided within three months after energization.

There's no desire for penalties that dis-incent people from energizing new equipment but there's need for penalties that encourage early reporting. Not sure that 7 days will be needed once systems are in palce and incremental updates are being performed. There may also be a need for determining the impact of the facility addition to the system before determining penalties. (Should a new 200 MW generator going into service be penalized the same as a distribution tap serving 5 MWs of load? Probably not but this standard as written does not differentiate between the two.)

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: Somehow the requirement should recognize that large scale system instability threats may not be easily or quickly identified.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The MISO Day 2 market relies on analysis tools running every 5 minutes. Not sure that 8 hours is an acceptable cutoff for level 1 non-compliance.

It is unreasonable that an analysis not running once but recovering to run in a few minutes would still be considered non-compliance. Level 1 non-compliance should allow a buffer of time for the start of the analysis, maybe 1 or 2 hours, to be compliant. The reason is that some analyses (e.g., dynamic stability) can take 1 or 2 hours to set up the appropriate cases for the analysis and have the runs completed. Level 1 non-compliance would be more reasonable if written as follows:

"Reliability analysis did not run within 1 (or 2) hour(s) of request, but ran within 8 hours."

There is some concern as to how MISO can maintain an accurate model of the system based on the size of the system MISO's required to model and the number of changes being made to this system. Another concern is how reliable the network analysis tools can be when relying on ICCP as their only data source. Some of this data may be second hand which will tend to complicate analysis.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: RA should take the lead & TOP should assist but not be held to RA standard.

Same comments as in 12. A basic analysis tool set (SE, SA, and PF) should be running at the TOP shop. The more advanced tools like voltage stability, transient stability, etc. may be better suited to the RAs.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Same as response to Question #29, subject to advice provided to Question #30.

Additionally, if system conditions are "normal," it may be acceptable to lose applications for an extended period of time (possibly 1 hour) without this being a problem. Alternatively, at some times, the loss of study tools for 10 minutes can be a disaster. A flat 8 hour cutoff may force TOPs to have applications support personnel on site around the clock which may not be necessary. Non-compliance should be defined in a way that conforms to Operator sense of urgency for the analysis tools.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: The need is clear and the TLR process is a first step in tracking these kinds of activities. This could be worded more carefully to describe "documentation" that is reasonable and applicable in the normal course of business without being open to an interpretation requiring extraordinary and unreasonable documentation.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should entities be penalized for things that might have happened but didn't? How much faith do we place in analysis results? If an overload would have been 1% over rating and nothing happened, is that a problem. 5%? 10%? If something happens, some type of penalty/written reprimand should be issued with a lesson learned follow-up to make sure it does not happen again. Hopefully a system isn't created that discourages people from reporting problems to avoid fines and thereby miss the opportunity to analyze a problem to prevent it in the future.

Level 3 non-compliance doesn't appear to be different from level #2.

Level 4 non-compliance should forgive extraordinary and severe causes as follows:
System operating limit violated and resulted in instability, uncontrolled separation or cascading

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outages that adversely impacted the reliability of the bulk transmission system without the influence of severe storms, sabotage, or other extraordinary conditions.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: This could be worded more carefully to describe "documentation" that is reasonable and applicable in the normal course of business without being open to an interpretation requiring extraordinary and unreasonable documentation.

There is a need for the TOP to take actions, however, the TOP should coordinate with the RA, where possible. The level of documentation should not be as rigid as that applied to the RA.

Referring to similar comments in reply to question 12, a basic analysis tool set (SE, SA, and PF) should be running at the TOP shop. The more advanced tools like voltage stability, transient stability, etc. may be better suited to the RAs. The TOP may be the primary party responsible for maintaining reliable operation of the transmission system and, as such, should document steps taken to prevent problems using the available diagnostic tools. This does not include instability, or uncontrolled separation as these would be identified by more advanced tools first.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Same response as provided for Question 33.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: It is unreasonable to expect there will be a documented mitigation plan for everything. A storm or other cause of combined events can result in unanticipated or extremely rare outage scenarios. Lack of documentation for such scenarios need not be a hindrance since an experienced operator can promptly devise an effective mitigation plan. However, producing and maintaining documentation for all such scenarios would be burdensome and inefficient.

Will it be possible to keep a mitigation plan matrix up to date and get necessary approvals in a timely fashion?

Who will approve the mitigation plan?

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Cannot agree with this approval process since it remains somewhat undefined. For instance, who gives the approval?

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Subject to the response given to Question #36, the TOP should be held accountable for maintaining an accurate record of relevant mitigation plans for its area as supplied by the RA.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Agreement would depend upon addressing the concerns expressed in Questions #37 and #38 above.

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: What is meant by "specified period of time" in the statement "The Reliability Authority shall document . . . exceeded for a specified period of time?" Agreement to this requirement will have to wait until meaning of "specified period of time" is specified.

In many cases, a complete and final report cannot be produced within 72 hours. This requirement would be feasible if its requirement were for a preliminary report within 72 hours.

This requirement may be a heavy burden on the RA staff depending on the detail required in the documentation. Will the compliance monitor take immediate action on a report filed within 72 hours, what will the compliance monitor do with these reports, what is the compelling reason for providing these reports within 72 hours?

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

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Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: The requirement's use of the word "identified" creates confusion by implying the existence of OSL's not identified or, worse, that the TOP requirement is somehow dependent on the TOP's act of identifying something which invites failure, intentional or otherwise, to identify and document violations.

Must all OSL violations fall under the purview of this standard or only those OSL violations with regional impact? If this standard applies for every violation, including minor line overloads, etc., the documentation and reporting requirements would be overwhelming.

The requirement should dictate how long documentation must be retained.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: Actually, how would the MISO "Day 2" market, as proposed, conform to the definitions proposed in this new standard?

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments:

If yes, please identify what you feel should be added.

It is unclear how fines are levied based on \$'s or \$'s/MW. Some examples may be of value that show people the cost of non-compliance. The pricing signals may (or may not) push people to improve their processes to achieve compliance sooner than later.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: Version B is shorter.

47. If you have comments on the format of the standard, please share them with us.

Comments: While it seems repetitive there is no other way to better mirror the NERC Functional Model.

Although version B is clearer than version A, version B might be better if altered so that the requirements for each type of entity are grouped. That is, all the requirements for the RA should be in one section so that the RA need not search the entire document for any remaining requirements that apply to them. Obviously, this would apply to all types of entities, IA, BA, Generator, TOW and TOP so they one have to look in one place.

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments: As long as specified data includes manually calculated values. Data should include real-time, state estimated, calculated or manually monitored values. It should allow a Reliability Coordinator/Transmission Operator/Generator to station an individual at a plant or substation to directly monitor values.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: This assumption needs to be clearly stated at the front end of the standard.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

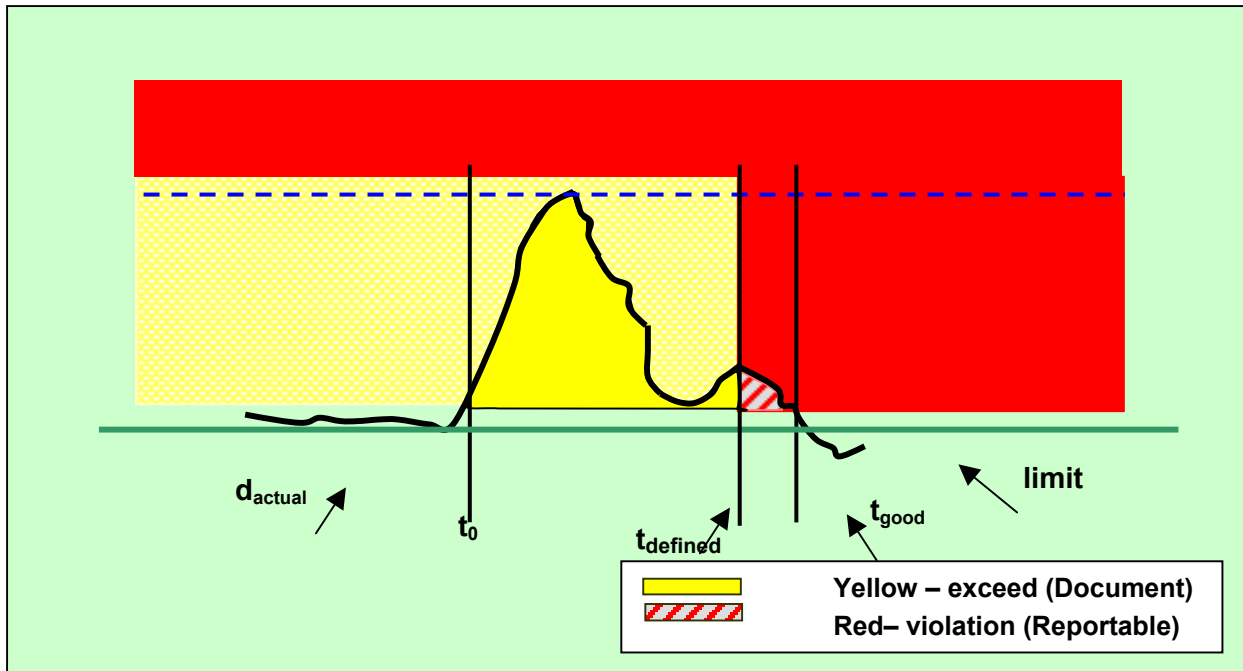
Do you agree?

Yes

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No

Comments: This assumption needs to be clearly stated and also should be similar to 4B of NERC policy



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

Yes
 No

Comments: It would be of value to state that a reportable violation does not exist until the Operating Security Limit has been consecutively violated for $t_{defined}$. It would also be of value to state that the exceeding of the operating limit for any period of time must be documented. If in the graph the monitored value dipped below the Operating Security Limit for an instance and then exceeded the limit for the rest of the period and that was still an Operating Security Limit Violation, another loophole will have been addressed. Documenting near misses is also a good idea

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

Yes

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No

Comments: The graph still remains confusing and violations should be better defined.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

(1) Occurrence Period, (2) Operating Security Limit Violation

If possible, please provide us with a definition for each of these terms.

(1) Occurrence Period - Not sure what you mean when you refer to an Occurrence Period, need better definition

(2) Operating Security Limit Violation - A limit that results in instability, uncontrolled separation, or cascading outages if exceeded for more than one hour. We believe this definition is appropriate for the existing NERC template on Operating Security Limit Violation.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments The Generator is the entity closest to the physical facilities so he should be the best possible resource. However, the Reliability Coordinator (RC) should use data from the BA, the TOP, or the Planning Authority, if he can't get the data from the Generator. The Generator also may prefer to supply all his data via the BA or the TOP. This should be allowed. As long as the data is accurately supplied, it doesn't matter who supplies it. I don't think the standard should be too prescriptive on who supplies the data.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

RA

BA

Generator

Planning Authority

Comments The Generator is the entity closest to the physical facilities so he should be the best possible resource. However, the TOP should use data from the Reliability

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Coordinator (RC), the BA, or the Planning Authority if he can't get the data from the Generator. The Generator also may prefer to supply all his data via the BA or the RC. This should be allowed. As long as the data is accurately supplied I don't care who supplies it. I don't think the standard should be too proscriptive on who supplies the data.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: We agree with the intent of this requirement and associated performance/outcome but the written words need to be changed.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: . (1) Operating Security Limits are not usually monitored in real time. (2) There should not be a non-compliance at level 1 or 2 when a Reliability Coordinator (RC) or Transmission Operator (TOP) stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working. The existing standard forces a non-compliance whenever the telecommunications equipment is not working. (3) Note 1 says - 'Real Time could be continuous analog data or data sampled at a rate greater than or equal to one minute -----'. One minute is a unit of time not a rate. It should say - 'Real time could be continuous analog data or data sampled faster than or equal to once a minute-----'. (4) Requirements 201 and 202 are very similar. Requirement 201 applies to Reliability Coordinators. Requirement 202 applies to Transmission Operators. The requirements are duplicative. The standard should require system conditions to be monitored by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing the monitoring if they so wish, but both of them should not be forced to do so. There is nothing

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wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: We agree with the intent of this requirement and associated performance/outcome but the written words need to be changed. (1) Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that exceeds a limit. This concept also needs to be reflected in section 202 (e) Compliance Monitoring Process.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: (1) Operating Security Limits are not usually monitored in real time. (2) There should not be a non-compliance at level 1 or 2 when a Reliability Coordinator (RC) or Transmission Operator (TOP) stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working. The existing standard forces a non-compliance whenever the telecommunications equipment is not working. (3) Requirements 201 and 202 are very similar. Requirement 201 applies to Reliability Coordinators. Requirement 202

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applies to Transmission Operators. The requirements are duplicative. The standard should require system conditions to be monitored by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing the monitoring if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: We recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state '----- timeframe, and notation that data be technically accurate and complete'. We would rewrite these measures to state '-----timeframe, and notation that data be accurate and complete'. What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable
4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

¹ Reliability analyses includes both real time and operational planning analyses

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Yes

No

Comments: . Requirements 203 and 204 are very similar. Requirement 203 applies to Reliability Coordinators. Requirement 204 applies to Transmission Operators. The requirements are duplicative. The standard should require accurate models to be maintained by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them maintaining accurate models if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: We recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state '----- timeframe, and notation that data be technically accurate and complete'. I would rewrite these measures to state '-----timeframe, and notation that data be accurate and complete'.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

Yes

No

² Reliability analyses includes both real time and operational planning analyses

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Comments: Requirements 203 and 204 are very similar. Requirement 203 applies to Reliability Coordinators. Requirement 204 applies to Transmission Operators. The requirements are duplicative. The standard should require accurate models to be maintained by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them maintaining accurate models if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) Change 'by an (associated) RA' to 'by another RA'. Less words, more descriptive. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the BA can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the IA can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the TOP can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: (1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'. (2) I'm not sure if 'shall provide data as specified by an (associated) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the Generation Owner can request the data. The standard needs to be clear on which meaning is correct. (3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

- Yes
 No

Comments: Requirements 210 and 211 are very similar. Requirement 210 applies to Reliability Coordinators. Requirement 211 applies to Transmission Operators. The requirements are duplicative. The standard should require a reliability analysis to be performed by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing a reliability analysis if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: The Reliability Coordinator should be allowed to use a previous reliability analysis that covered similar system conditions if the reliability analysis could not be run because of computer problems or was duplicative of a previous reliability analysis. Such action should not result in a non-compliance.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: Requirements 210 and 211 are very similar. Requirement 210 applies to Reliability Coordinators. Requirement 211 applies to Transmission Operators. The requirements are duplicative. The standard should require a reliability analysis to be performed by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing a reliability analysis if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The Transmission Operator should be allowed to use a previous reliability analysis that covered similar system conditions if the reliability analysis could not be run because of computer problems or was duplicative of a previous reliability analysis. Such action should not result in a non-compliance.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: (1) Requirements 212 and 213 are very similar. Requirement 212 applies to Reliability Coordinators. Requirement 213 applies to Transmission Operators. The requirements are duplicative. The standard should require actions be taken to prevent/mitigate identified problems by either the Reliability Coordinator or the Transmission Operator, but not both of them. It should be clear in the agreement between the Transmission Operator and their Reliability Coordinator who has authority to take the action to correct or mitigate a problem. Having two different entities responsible to take action to correct a problem is troublesome. The possibility exists that the two entities may decide on different courses of action to solve the problem. Valuable minutes may be squandered by the two different entities attempting to coordinate actions. Only one entity should have the responsibility to take action and that responsibility needs to be clearly delineated.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. We don't think that the Reliability Coordinator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: (1) Requirements 212 and 213 are very similar. Requirement 212 applies to Reliability Coordinators. Requirement 213 applies to Transmission Operators. The requirements are duplicative. The standard should require actions be taken to prevent/mitigate identified problems by either the Reliability Coordinator or the Transmission Operator, but not both of them. It should be clear in the agreement between the Transmission Operator and their Reliability Coordinator who has authority to take the action to correct or mitigate a problem. Having two different entities responsible to take action to correct a problem is troublesome. The possibility exists that the two entities may decide on different courses of action to solve the problem. Valuable minutes may be squandered by the two different entities attempting to coordinate actions. Only one entity should have the responsibility to take action and that responsibility needs to be clearly delineated.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: I agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. I don't think that the Transmission Operator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Requirements 214 and 215 are very similar. Requirement 214 applies to Reliability Coordinators. Requirement 215 applies to Transmission Operators. The Reliability Coordinator Plan and the Transmission Operator Plan must be coordinated. These plans must clearly state the responsibilities of the Reliability Coordinator and the responsibilities of the Transmission Operator. There must not be any confusion as to who has the responsibility to take specific actions.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Requirements 214 and 215 are very similar. Requirement 214 applies to Reliability Coordinators. Requirement 215 applies to Transmission Operators. The Reliability Coordinator Plan and the Transmission Operator Plan must be coordinated. These plans must clearly state the responsibilities of the Reliability Coordinator and the responsibilities of the Transmission Operator. There must not be any confusion as to who has the responsibility to take specific actions.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

Yes

No

Comments: This is very confusing because this standard does not identify which operating limits have to be reported and what conditions trigger a reporting event. As an example; a construction project requires a reconfiguration of a power plant substation. This reconfiguration creates a situation where the generating units operating at full load may go unstable with a three phase fault outside the substation and a breaker fail to trip condition. Operational planning studies will show that reducing the plant generation to 60% allows the units to remain stable during the fault conditions. Does this become an operating limit? What happens if the transmission operator elects to take the chance and keep the units operating at full load because the system is capacity short, the UN peace keeping negotiating team is in town, and the probability of having a bolted three phase fault with a stuck breaker is very,very low. Has the operator violated an operating limit? Does the operator have to complete a violation document? This standard has to define what is a violation and when does the violation have to be reported and documented.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

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41. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: See the response to question 40

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments:

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: 1) Throughout the standard the term Reliability Authority is used. This term is out of date and has been replaced by Reliability Coordinator. Is the Reliability Authority in this questionnaire identical to the Reliability Coordinator function? This issue needs clarification. If the Reliability Authority in this questionnaire is different than the Reliability Coordinator function, there needs to be an explanation of the difference. (2) Throughout the standard the term 'system operating limit' is used. This term should be replaced with the term 'Operating Security Limit'. There are many different system operating limits. These standards do not apply to all of them. This standard only applies to Operating Security Limits violations. The term Operating Security Limit should be used and defined to distinguish it from the multitude of system operating limits that are routinely used in everyday operation.

If yes, please identify what you feel should be added.

**(1) Throughout the standard replace the term Reliability Authority with Reliability Coordinator.
(2) Throughout the standard replace the term 'system operating limit' with Operating Security Limit. Write a definition of Operating Security Limit.**

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: It will be easier to modify the standards if each requirement is a stand alone item.

47. If you have comments on the format of the standard, please share them with us.

Comments: I believe that NERC has taken the old hardware/software problem and increased it

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exponentially. There is a computer problem; hardware blames software and software blames hardware. It appears that NERC has set up the condition where there will be finger pointing between the IA, RA, BA, and TO. Because of this potential it is very important to get this correct before it goes to drafting committee.

Another concern that I have is that the whole RTO/SAR process has taken away the common sense factor. As an example: The temperature is 30 degrees below zero and the wind speed is 20 miles per hour. The associated high loads has caused the transmission lines into the area to become overloaded based on an operating limit developed at zero degrees and a wind speed of 10 miles per hour. The only solution is to reduced load in the area through rotating the opening of distribution breakers throughout the area. The problem is that once a distribution breaker is opened there is a good chance that it will not close when called upon due to the cold weather. The RA or TO or whatever does not call for load reductions due to exceeding the operating limit, serves the load with no problem because the true limits are higher than the reported limits or a small amount of loss of life is taken out of the lines. My fear is that because a limit has been violated the TO or RA will be placed on the NERC rack and tortured. Once that happens the next time you will see load shedding causing even more problems.

I do support ECAR's responses and much of PJM's responses.

After reviewing all of this TO, IA, BA, and RA I am heading to AA because I really want a drink.

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1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes

No

Comments:

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments:

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: It is unclear whether the certification process will address the provision of the data. If it does, then we agree with this. If it does not, then we need to ensure somewhere, perhaps in this standard, that the data is indeed provided.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

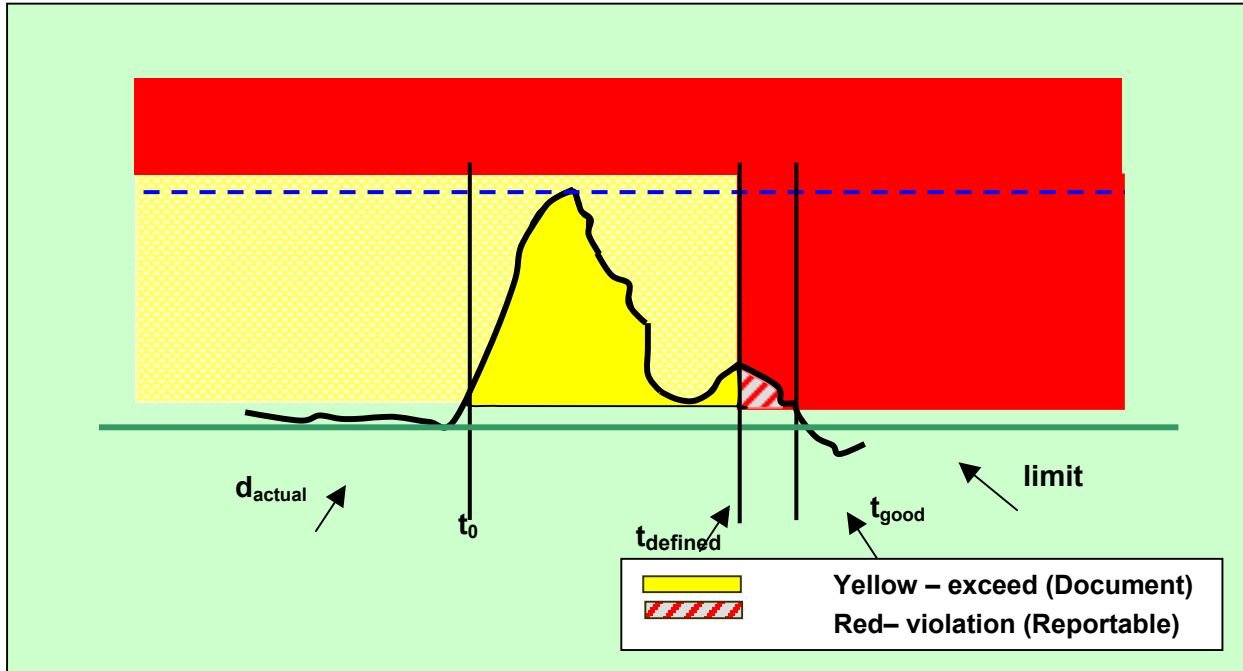
Do you agree?

Yes

No

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Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?

- Yes
- No

Comments: It is unclear which context applies to "reportable violation". If the violation being reported to NERC is the context, then this may be true only if the limit being monitored is an IRL (old OSL). It is true that the graph depicts an operating limit being exceeded. Whether it is reportable depends upon the context of whether it may be internally reportable on a Region basis, or whether it is intended to refer to reportable to NERC.

6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?

- Yes
- No

Comments: See our comments on #5 above.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

Instability

Uncontrolled Separation

Cascading Outages

Widespread Area

Local Area

If possible, please provide us with a definition for each of these terms.

ERCOT has been participating in the NERC Operating Limit Definition Task Force. Please refer to the Task Force Report. The NERC OC has endorsed the recommendations of the Task Force and has directed the Reliability Coordinators to use these definitions as a "field test" this summer, and to work with the Standard Drafting Team to incorporate these definitions into the Reliability Standard.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

BA

TOP

Generator

Planning Authority

Comments In ERCOT, the TOP does not receive all of the generator data; some is provided to the TOP in an Interconnection Agreement, but more is required to be provided to ERCOT in its role as the RA.

TheBA may well provide the data if the generators are under a contractual obligation to do so with the BA.

The Generator Owner and the Transmission Owner provides data for their facilities.

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

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Please check all that apply.

- RA**
- BA**
- Generator**
- Planning Authority**

Comments ERCOT performs these analyses as the RA, BA, and Planning Authority, although the TOP is not precluded from doing so. The RA must ensure the analyses are performed. In ERCOT, ERCOT performs the analyses. The RA may or may not accept the TOP's analyses.

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Please refer to the NERC Operating Limit Definition Task Force (OLDTF) report. ERCOT agrees with the contents of that report.

The RA must ensure that system operating limits and interconnected reliability limits are established.

The measures do not relate to the requirement. The requirement is that the RA shall monitor, not that the limits be available or that data is available. Those measures should pertain to the function(s) responsible for providing the limits and ratings, such as the Generator Owner or the Transmission Owner.

The measure should be that the RA did indeed monitor the limits. What's unstated is over what timeframe. Continuous monitoring? Hourly? Other?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please refer to the comments to #10 above. The RA typically can't control

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whether the data is provided, but may have acceptable and prudent measures in place to require the data. This comment would apply throughout this document.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: Same comments as in #10 above. The measures don't relate to the requirement.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Same comments as #11 above.

It appears that there will likely be numerous Level 1 non-compliances unless a threshold is established. System Operation experience shows that metering signals fall in and out. If Level 1 indicates that every time a metering signal is lost, you are non-compliant. This needs some reconsideration. The drafting team should consider that state estimators can supply some of the data in a short term.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: The Requirement should be refocused to state that the RA needs to maintain accurate models and run studies to determine limits rather than directing the RA to collect the data it needs. There should be Requirement for the Transmission Owner, Generation Owner, LSE, and TOP to provide the RA with the data it needs for its studies.

Under Requirements 6 and 7, minimum times are specified for provision of "monitoring" data provision. However, no similar minimum time line is stated for this Requirement. For consistency, a minimum time should also be stated. This time specification should provide sufficient time for the RA, etc., to perform data base modelling and development and confirmation of limits.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable

¹ Reliability analyses includes both real time and operational planning analyses

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4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please see the first paragraph of comments to #14 above.

The RA typically has no control over whether the data is provided, but may have prudent and acceptable measures in place which require the data.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP's hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

Yes

No

Comments: Same comments as for #14 above, but with focus on TOP. Also, the TOP does not need to collect any information from the IA. The IA has next-hour bilateral and market interchange information, but it's not of any use to the TOP.

Under Requirements 6 and 7, minimum times are specified for provision of "monitoring" data provision. However, no similar minimum time line is stated for this Requirement. For consistency, a minimum time should also be stated. This time specification should provide sufficient time for the RA, etc., to perform database modelling and development/confirmation of limits.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

² Reliability analyses includes both real time and operational planning analyses

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17. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Please see comments for #15 above.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

- Yes
 No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments:

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

Yes

No

Comments: The timing of this Requirement conflicts with Requirement 5. That is, the seven days does not leave the RA any time to complete its obligations under Requirement 5.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: This Requirement does not make sense. The IA authorizes next-hour bilateral transactions and Market dispatch that are ready for physical implementation.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments to #22 above.

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Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: The timing of this Requirement conflicts with Requirement 5. This is, the seven days does not leave the RA any time to complete their obligations under Requirement 5.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments to #24 above.

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: The timing of this Requirement conflicts with Requirement 5. That is, the seven days does not leave the RA any time to complete their obligations under Requirement 5.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments to #26 above.

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Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: We agree with the Requirement; however, as written, it assumes that all RAs have online reliability analysis programs to identify the applicable limits. In fact, many use off-line studies to perform base case analyses, which are translated into cyclic computer calculations.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please see comments to #28 above. Also, the Requirement is seemingly more important than it is depicted here. Instead of skipping Level 4, should use Levels 2, 3, and 4 with the caveat of having appropriate predetermined analyses to take the place of real-time analyses.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

Yes

No

Comments: In ERCOT, the primary responsibility for such analysis is ERCOT as the RA. This is in conjunction with any analysis the TOP performs, but the TOP does not have the primary responsibility. In other words, the RA is responsible for these analyses.

Also, please see comments to #28 above.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please see comments to #29 above.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments:

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Level 2 and 3 appear to be the same.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

Yes

No

Comments: This Requirement does not adequately address the coordination that must take place between the TOP and the RA. Furthermore, the TOP may not include a wide enough scope to determine these limits.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please see comments to #33 above. Level 2 and 3 appear to be the same.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: re: Outcomes. Shouldn't this read "procedure or policy" to ensure "Operating within limits and associated mitigating actions are taken." How can you have a "documented, approved mitigation plan" for unknown contingencies? Furthermore, such a plan as required by Requirement 14 should be part of the Certification requirements, not this standard.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please see comments to #36 above.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Please see comments to #36 above.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments:

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: Please refer to the OLDTF report. This should apply to IRL Compliance Violations only. Also, this should be split into a Preliminary Report and a "complete" Report. The Preliminary Report should be submitted within 72 hours. A longer time is required for the "complete" report; probably a minimum of one month.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: Level 3 implies a log is kept, but the information could be kept in some other form. The important point is that the supporting documents be available.

Please see comments to #40 above and the suggestion that the report be split into

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preliminary and final versions.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: ERCOT agrees with the OLDTF report and feels that this Requirement needs to be reviewed with respect to that report. If the Requirement refers to documenting SOL violations as defined by the OLDTF, then reporting may be required to the Regional Council. If the Requirement refers to IRL Compliance Violations, then the RA needs to submit the report to the Regional Council and NERC.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Please see comments to #42 above.

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: In the ERCOT Region, ERCOT uses ratings provided by the equipment owners to determine the limits. The TOP doesn't determine them.

If yes, please identify what you feel should be added.

In some Regions or Interconnections, the RA may delegate certain tasks to other functions, though the RA is responsible for ensuring that these tasks are performed. There needs to be some kind of general statement to this effect. Perhaps this is being addressed in the Functional Model.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: Should consider the definitions and recommendations developed by the NERC Operating Limit Definition Task Force and endorsed by the NERC Operating Committee.

If yes, please identify what you feel should be added.

Please refer to the NERC OLDTF Report.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments:

47. If you have comments on the format of the standard, please share them with us.

Comments: You are encouraged to make them as simple as possible. Organization and means to find content needs to be very clear. Realizing that these are very complex, perhaps they need to be followed up with summaries by function or subject, such as Compliance Requirements, Planning Requirements, Operating Requirements, etc.

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STD Commenter Information (For Individual Commenters)	
Name	Linda Campbell
Organization	FRCC
Industry Segment #	
Telephone	
E-mail	

- Key to Industry Segment #'s:**
- 1 – Trans. Owners
 - 2 – RTO's, ISO's, RRC's
 - 3 – LSE's
 - 4 – TDU's
 - 5 - Generators
 - 6 - Brokers, Aggregators, and Marketers
 - 7 - Large Electricity End Users
 - 8 - Small Electricity Users
 - 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

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STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: <i>FRCC Members</i>		Group Chair: Chair Phone: Chair Email:
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Linda Campbell</i>	<i>FRCC</i>	<i>2</i>
<i>Roger Westphal</i>	<i>Gainesville Regional Utilities</i>	<i>3</i>
<i>Ted Hobson</i>	<i>JEA</i>	<i>1</i>
<i>Wendell Payne</i>	<i>Florida Power & Light Company</i>	<i>1</i>
<i>Paul Elwing</i>	<i>Lakeland Electric</i>	<i>3</i>
<i>Joe Krupar</i>	<i>Florida Municipal Power Agency</i>	<i>3</i>
<i>Vern Ingersoll</i>	<i>Progress Energy</i>	<i>1</i>
<i>Eric Grant</i>	<i>Progress Energy – Florida</i>	<i>1</i>
<i>Chuck Harper</i>	<i>Progress Energy - Florida</i>	<i>1</i>
<i>Ben Sharma</i>	<i>Kissimmee Utility Authority</i>	<i>3</i>
<i>Ron Donahey</i>	<i>Tampa Electric Company</i>	<i>1</i>

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Yes
 No

Comments: However, we question why the non-compliance levels for the first two requirements require actual data. You should be able to use state estimated or other calculated values as appropriate.

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2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

Comments: The footnote appearing on pg.1 of Version A defines "real time" but it is not clear if this is restricted to data extracted from the Energy Management Systems, and does a reference to "real-time" conceptually imply data, or processes, or both?

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments: The certification process for the RA or TOP is not the place to ensure that correct modeling data is supplied by operating entities. The requirement for obtaining initial data, and future changes to data needs to reside in one standard.

In addition, the draft standard only requires 7 days prior to the energization of new facilities for new data to be submitted. This short time frame may not be enough for operational planning studies that may go out as far as 12 months. Perhaps NERC should not make this requirement, but leave it up to the Region, or Reliability Authority to determine what the appropriate notification time is.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

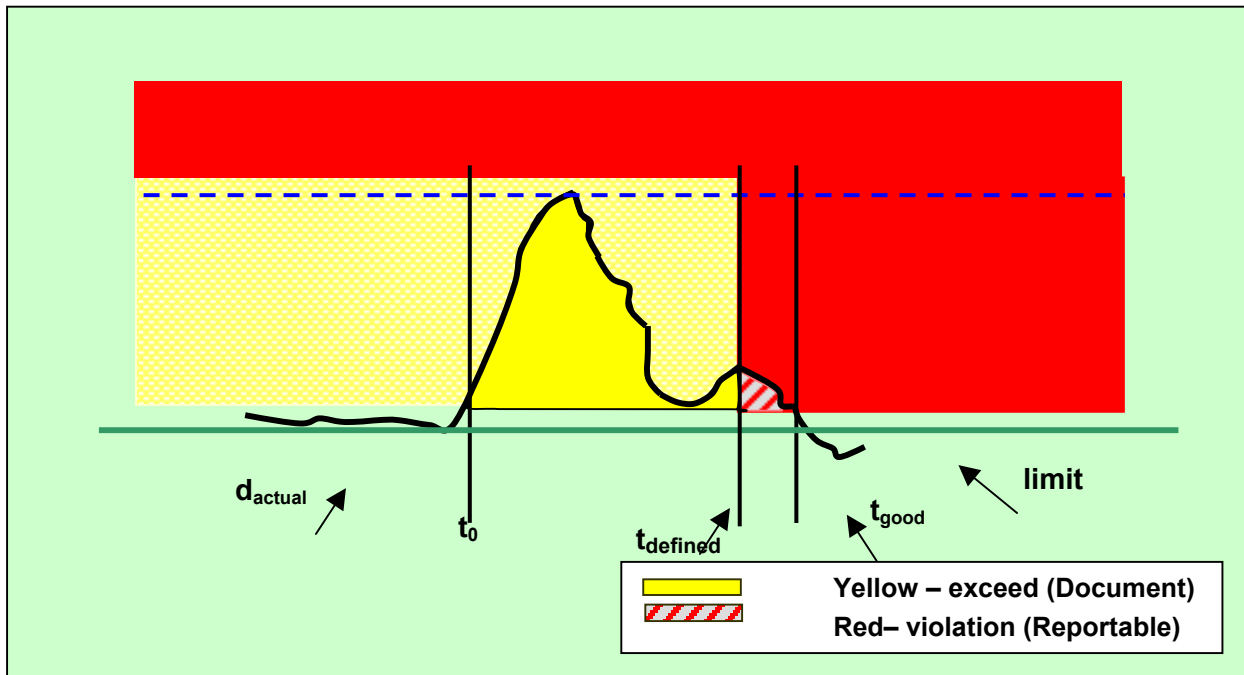
Do you agree?

Yes

No

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Comments:



5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?
- Yes
 No
- Comments:** There are too many "irons in the fire" just now. The NERC OC has a task force working on this particular issue, and as indicated in the March OC meeting highlights, have directed the Reliability Coordinators to "field test" the OLDTF's definition and reporting form.
6. Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?
- Yes
 No
- Comments:** See comment in question 5.

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here.

If possible, please provide us with a definition for each of these terms.

8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- BA**
- TOP**
- Generator**
- Planning Authority**

Comments

9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.)

Please check all that apply.

- RA**
- BA**
- Generator**
- Planning Authority**

Comments

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Please use Version A of the draft standard to answer these questions.

Requirement 1:

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The RA shall monitor real time system operating limits and compare these against actual data associated with those limits.

10. Do you agree with this requirement and its associated performance/outcome and measure/s?

- Yes
 No

Comments: Real time data is actual data. It would seem that the reference to actual in item 2 is not necessary and may cause confusion. Also, as real time data may be temporarily unavailable from time to time, state estimation or other calculated data should be acceptable.

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

11. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: There can be legitimate reasons for telemetered data being unavailable. Perhaps it would be more appropriate to change the timing in item 1 from "for up to 24 hours" to "for 12 to 24 hours". Again, what is wrong with using state estimation data, or other calculated data? These non-compliance levels are not realistic.

If item 2 is intended to be a next level of non-compliance, it should be between 24 to 48 hours.

You do not ask a question about the compliance monitoring process, but we would like to provide comment on that section as well. Section 201 (e) states that the RA will demonstrate compliance thru the self certification process with re-certification on a schedule established by the compliance monitor. We do not agree with the re-certification part of this statement. The

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compliance monitoring of this standard is not for certification on an entity performing a function. There is no need for any re-certification in connection with this standard. The self certification process is just a way for an entity to provide information to the compliance monitor that will be validated thru spot reviews etc. The re-certification statement appears in every compliance section in this document. It needs to be removed throughout.

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Requirement 2:

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

Measure(s):

1. System operating limits are available in real time
2. Actual real time data is available in a form that can be compared to the system operating limits

Outcome(s) (100% Compliance):

The TOP shall monitor real time system operating limits and compare these against actual data associated with those limits.

12. Do you agree with this requirement and its associated performance/outcome and measure/s?

Yes

No

Comments: This requirement is a duplicate of what was in Requirement 1 for the RA. We are confused as to whose responsibility it is to monitor the system operating limits. Shouldn't the requirement be for the TOP to provide telemetry data to the RA so the RA can monitor and assess the entire area?

Levels of Non-compliance for this Requirement:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) were not being compared to actual data

13. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Same comment as provided in response to question 11 for the RA.

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Requirement 3:

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.¹

The RA shall specify when to supply data (based on the RA’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

Measure(s):

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

14. Do you agree with this requirement?

Yes

No

Comments: However, as stated in an earlier question, this assumes that the initial data is obtained via requirements for certification. We believe that the requirement for specification of data should not depend on if it is initial data, or updates. However, the RA should have a process in place for collecting that data as new facilities come into service or change.

The outcome seems to be just a restatement of the requirements. It does not add anything to the standard.

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested or there was no record of specification
3. Not Applicable

¹ Reliability analyses includes both real time and operational planning analyses

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4. Not Applicable

15. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: The 2nd level is confusing. If data was not requested, perhaps it was not needed. It would seem to go back to what the specification is requiring to be provided. Perhaps a more important level would be if the RA requested data, did not receive it, and did not attempt any further to get it. In the 2nd level statement it says "or there was no record of specification". Isn't that essentially the same as the 1st level?

Again, you did not ask about the compliance monitoring section. Please see comment stated earlier about self-certification and re-certification.

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Requirement 4:

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.²

The TOP shall specify when to supply data (based on the TOP’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

Measures:

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

Outcome(s) (100% Compliance):

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

16. Do you agree with this requirement?

- Yes
 No

Comments: In requirement 3, the RA has already determined what data it needs for reliability analyses and system monitoring. It appears to be redundant to have the TOP do the same thing. Would it be more appropriate for the TOP to have a requirement to provide the requested data to the RA and then be measured in how they perform that?

Levels of Non-compliance for this Requirement:

1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)
2. Data was not requested **OR** there was no record of specification
3. Not Applicable
4. Not Applicable

17. Do you agree with these levels of non-compliance for this requirement?

- Yes

² Reliability analyses includes both real time and operational planning analyses

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No

Comments: Based on our comment to question 16, we would recommend that compliance for the TOP be built around providing the requested data to the RA.

Requirement 5:

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measures:

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

Outcomes (100% Compliance):

The RA shall provide data as requested, to its (associated) RA and/or TOP.

18. Do you agree with this requirement?

Yes

No

Comments: This requirement seems backwards. Shouldn't the TOP be the entity to provide data on new facilities to the RA? Also, submitting data 7 days prior to the energization of new facilities may not be long enough, especially for operational planning studies that may go out as far as 12 months. Perhaps NERC should not make this requirement, but leave it up to the Region, or Reliability Authority to determine what the appropriate notification time is.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

19. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Requirements 4 and 5 need to be combined and focus on the TOP providing data to the RA when appropriate or requested. The RA needs to have a process in place for obtaining the data it needs which would include the timeframe for submitting data as well as the specification of what data is needed.

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Requirement 6:

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

20. Do you agree with this requirement?

- Yes
- No

Comments: This requirement should not just focus on new facilities or changes to existing facilities. As we have stated for the TOP, the BA should have requirements for providing the data to the RA as specified by the RA and in the timeframe the RA needs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

21. Do you agree with these levels of non-compliance for this requirement?

- Yes
- No

Comments: Perhaps there should be several levels that are time dependent. See earlier comments regarding self certification and re-certification.

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Requirement 7:

The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The IA shall provide data, as requested, to its (associated) RA and/or TOP.

22. Do you agree with this requirement?

Yes

No

Comments: First of all, the information the IA will be providing the RA will deal with interchange schedules. We are not sure what other information the IA will be giving the RA or TOP for that matter that will involve new facilities. Would it be more appropriate to have the requirement center around the IA providing the interchange information to the RA in a timely manner so that the impact of the interchange schedules can be considered in the reliability analyses?

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

23. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Can not comment on this as we believe the requirement for the IA is not accurate.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 8:

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

24. Do you agree with this requirement?

Yes

No

Comments: This requirement should not just focus on new facilities or changes to existing facilities. As we have stated for the TOP, the TOW should have requirements for providing the data to the RA as specified by the RA and in the timeframe the RA needs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

25. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Perhaps there should be several levels that are time dependent. See earlier comments regarding self certification and re-certification.

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Requirement 9:

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Measure(s):

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

Outcome(s) (100% Compliance):

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

26. Do you agree with this requirement?

Yes

No

Comments: This requirement should not just focus on new facilities or changes to existing facilities. As we have stated for the TOP, the generation owner should have requirements for providing the data to the RA as specified by the RA and in the timeframe the RA needs.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

27. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Perhaps there should be several levels that are time dependent. See earlier comments regarding self certification and re-certification.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

Requirement 10:

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

28. Do you agree with this requirement?

Yes

No

Comments: The FRCC Security Process specifies the periodicity for performing real time contingency analysis and for operations planning studies. We agree with this requirement but would not support NERC telling how often the analysis should be performed. That should be left up to the Regions or the RAs.

Levels of Non-compliance for this Requirement:

1. Reliability analysis did not run when requested, but ran within 8 hours
2. Reliability analysis did not run when requested, but ran in 8 - 24 hours
3. Reliability analysis did not run when requested, and did not run within 24 hours
4. Not Applicable

29. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We are not sure that these levels fit completely. Wouldn't it depend on the type of reliability analyses being performed. For instance, if a real time contingency analysis was to be run by the RA every 5 minutes, these levels might not apply. But, if it was for a 7 day study twice a week, these might be more appropriate. Also, who is requesting the reliability analysis? In FRCC, our Security Process (Reliability Plan) document lists the requirements for the reliability analysis in our region.

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Requirement 11:

The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Measure(s):

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

Outcome(s) (100% Compliance):

The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

30. Do you agree with this requirement?

- Yes
 No

Comments: It would seem that this requirement is really unnecessary. Requirement 10 has the RAs performing the analysis and that should be all that is needed. However, if it were to stay, TOPs should not be required to run on-line/real-time automated studies to identify and/or forecast bulk reliability concerns. NERC should not expect every TOP to acquire and maintain on-line reliability analysis tools without adequate reliability benefit to justify such a costly universal requirement - particularly since the RAs will be required to use such tools anyway.

Levels of Non-compliance for this Requirement:

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

31. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: We really do not think this requirement is necessary.

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Requirement 12:

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

32. Do you agree with this requirement?

Yes

No

Comments: We do support this requirement, but have concern about the type of documentation that is contemplated. This may need to connect back to the work of the OLDTF and what is reportable or not. We would not support keeping a lot of documentation for things that are not reportable. Documentation can be costly and we do not favor doing it unnecessarily. Regions may already have documentation requirements so we would like to see more details on what is envisioned here.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

33. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: We are not sure what the difference is between level 2 and level 3. Also, if the RA gave direction to a TOP or BA to implement a mitigation plan, and the TOP or BA did not do it in time, who would the non-compliant party be? The RA's responsibility is to monitor and take action, which could be giving direction to some other entity, so it would seem like the non-compliance levels need to focus on did the RA do what they should do, or not.

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Requirement 13:

The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The TOP shall document actions taken.

Measure(s):

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Outcome(s) (100% Compliance):

The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

34. Do you agree with this requirement?

- Yes
- No

Comments: See our comment on requirement 4. Again, this seems redundant to what the RA is doing via requirement 12. It would seem more appropriate to have the TOP have a requirement to work with the RA in providing mitigating plans and taking actions as directed by the RA.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

35. Do you agree with these levels of non-compliance for this requirement?

- Yes
- No

Comments: Similar to our comments on question 33, not sure what the difference in level 2 and 3 are. Anyway, since we think the requirement itself needs to be changed, the non-compliance levels would need to be based on the revised requirement.

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Requirement 14:

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Measures(s):

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

36. Do you agree with this requirement?

Yes

No

Comments: Mitigation plans of the TOP, BA etc. need to be understood and reviewed by the RA so that when limits are exceeded, the RA can direct actions that will return the system to a normal or safe operating state. The outcome statement says that the RA will have a documented, approved mitigation plan. Who is this mitigation plan to be approved by? This requirement is not very clear.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

37. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Until the requirement itself is better understood, we can not comment on these levels.

In the draft standard, in the compliance monitoring process section 214(e), there is a sentence that states "The compliance monitor shall evaluate the mitigation plan and/or procedures." Why is this here? The compliance monitor will evaluate compliance to the requirement measures. It does not seem correct that the compliance monitor will evaluate mitigation plans, as that is not their area of expertise.

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Requirement 15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Measure(s):

Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.

Outcome(s) (100% Compliance):

The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

38. Do you agree with this requirement?

Yes

No

Comments: Again, we have the question about the TOP having an approved mitigation plan. Who does the approval? The RA should understand the mitigation plan, and agree that it will correct the problem, but approval may not be the appropriate word.

Not only should the TOP have a mitigation plan ready, but they should have a requirement to implement it when directed to by the RA.

Levels of Non-compliance for this Requirement:

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

39. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: Should compliance levels be for having a plan and implementing it when directed. What good is a plan if it is not used?

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Requirement 16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Measure(s):

1. Data exists and is retrievable that documents instances of exceeding identified system operating limits
2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)
3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

Outcome(s) (100% Compliance):

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceed for a specified time period. The report shall be filed within 72 hours of the event.

40. Do you agree with this requirement?

- Yes
 No

Comments: However, there are too many "irons in the fire" just now. The NERC OC has a task force working on this particular issue, and as indicated in the March OC meeting highlights, have directed the Reliability Coordinators to "field test" the OLDTF's definition and reporting form. The results of this "field test" need to be considered in this requirement.

Levels of Non-compliance for this Requirement:

1. Report was filed on time but was incomplete
2. Not Applicable
3. One of the following:
 - Logs were available but supporting documentation was unavailable
 - Supporting documentation indicated unlogged violation
 - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

41. Do you agree with these levels of non-compliance for this requirement?

- Yes
 No

Comments: FRCC would like to wait until the "field test" of the OLDTF recommendation is completed to understand this requirement and its levels of non-compliance before commenting

FRCC EC & OC COMMENTS 4/02/03

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further.

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Requirement 17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Measure(s):

Data exists and is retrievable

Outcome(s) (100% Compliance):

The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.

42. Do you agree with this requirement?

Yes

No

Comments: See comments to question 40.

Levels of Non-compliance for this Requirement:

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Documentation didn't exist

43. Do you agree with these levels of non-compliance for this requirement?

Yes

No

Comments: See comments to question 41.

FRCC EC & OC COMMENTS 4/02/03

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44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

Yes

No

Comments: The FRCC Security Process (Reliability Plan) has requirements for real time and operations planning analysis. NERC needs to be very careful when attempting to require certain periodicity for studies as each region may already have established what it requires.

If yes, please identify what you feel should be added.

45. Is the draft standard missing any requirements that should be added?

Yes

No

Comments: See comments to the questions. We have already identified some of these, especially with regard to the BA, TOP etc implementing mitigation plans, providing data etc.

If yes, please identify what you feel should be added.

46. Which form of the Standard do you prefer?

Version A – Each Requirement Separate

Version B – Related Requirements Combined

Comments: It is much easier to understand when related items are together. Version B is more clearly written and easier to follow.

47. If you have comments on the format of the standard, please share them with us.

Comments: All assumptions and definitions should be included in the standard.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

STD Commenter Information (For Individual Commenters)
Name
Organization
Industry Segment #
Telephone
E-mail

<p>Key to Industry Segment #'s:</p> <p>1 – Trans. Owners 2 – RTO's, ISO's, RRC's 3 – LSE's 4 – TDU's 5 - Generators 6 - Brokers, Aggregators, and Marketers 7 - Large Electricity End Users 8 - Small Electricity Users 9 - Federal, State, and Provincial Regulatory or other Govt. Entities</p>
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STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: <i>NERC Compliance Subcommittee, Compliance Managers Committee, Compliance Subcommittee</i>		Group Chair: <i>Norb Mizwicki</i> Chair Phone: 630-261-2600 Chair Email: ndm@maininc.org
List of Group Participants that Support These Comments:		
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<i>Ev Lucenti</i>	<i>Power Decisions</i>	

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

March 30, 2003

Comments on Operating Within Transmission Limits Standard (OWL)

Simplify the Standard

There is a fairly consistent theme across the comments that the draft OWL Standard should be simplified and clarified. The standard is focusing too much on data reporting, documentation, tools, etc. and is missing the key point to get operators to take appropriate actions in the right time frame to address OSL violations.

The OWL standard should focus on the **monitoring** of transmission system data and status and **Operating Security Limits**, to prevent Operating Security Limit **violations**, mitigate violations within specific time frames when they occur, and **report** such violations to NERC.

Operating Security Limits

There are several comments that propose that the definition of an Operating System Limit (OSL) is too narrow. A “System Operating Limit is a limit that has been “identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.”

“As conceived, this standard does not result in any entity assuring that bulk power system is operating within limits. It only results in operating within those limits for which violations result in instability/cascading outage risk. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby require monitoring and adherence, should be covered by this standard.”

Proposal

The Transmission System elements that have “established limits” to comply with the Disturbance Performance Table should be included in the OSL monitoring list.

Violations

The sanction measures in the draft standard are too focused on reporting and documentation, and rather should focus on OSL violations (violation meaning the limit has been exceeded by both a magnitude and time duration specification).

The levels of noncompliance as stated in the draft standard will be very difficult to measure, and should be replaced with measurable requirements that are practical to administer and that achieve desired results.

Reporting

There is a suggestion that there needs to be some definition of what should be “reportable” and that perhaps all incidents of OSL violations may not have to be reported.

Requirement #1

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

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Proposal

The RA shall monitor (in real time) transmission system data and equipment status related to specific system operating limits and direct actions to prevent OSL violations.

Levels of non-compliance based on time over limit, and magnitude of limit violation. (Something similar to the matrix that is used in the WSCC would provide for the practical measuring of non-compliance.)

Requirement #2

Proposal

Delete: Duplication of effort between RC and TOP

Requirement #3

Proposal

The RC is required to do "Real Time Monitoring" of data and equipment status that relates to specific, current, System Operating Limits, therefore there should be a measure for this requirement, with sanctions indicated for non-compliance

Acceptable parameters of monitoring must be defined. On the assumption that the transmission elements that will be monitored have been determined, and the Operating Security Limits have been defined, then:

1. Acceptable update frequency and accuracy of "Real Time Monitoring" of the data and equipment related to the OSL must be defined.
2. What data and equipment will be monitored must be established by the Reliability Coordinator and agreed to by the Transmission Provider.
3. The Transmission Provider must provide the data and equipment status information as required by the Reliability Coordinator. (Within agreed frequency of update and accuracy of data.)

Requirement #4

Proposal

The TOP is required to provide the RC the data and equipment status that relates to specific, current, System Operating Limits, at a pre-determined frequency of update, and accuracy of data. Therefore there should be a measure for this requirement, with sanctions indicated for non-compliance.

Requirement #5 to #9

The proposed requirements deal with data collection to support the models for system analysis.

Proposal

The requirement for data provision/collection/timing and model development, and related compliance measurements and levels of non-compliance should be dealt with through the present working groups that are doing this work.

Requirement #10

“The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.”

Proposal

There should be some qualifiers that define a NERC minimum periodicity to complete reliability analysis. The RA should establish their particular cycle for doing reliability analysis, and that information should be included in their Certification documentation.

Need to define what types of analysis are expected: actual flows versus limits, contingency analysis of all possible contingencies? Analysis of only those conditions defined in the day-ahead or seasonal studies? Is the requirement to do a "reliability analysis" every day? every shift? everytime a change in system configuration demands etc.

Requirement #11

Proposal

Delete: Duplication of effort between RC and TOP

Requirement #12

“The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.”

There are two parts to the Requirement. The first is a requirement to use the monitoring and analysis information to prevent an OSL. If this is done, there are no further requirements since there are no violations.

The second part of the proposed requirement is to determine how well the entity rectified (mitigated) the situation after a violation occurred. This will be part of the report and possible investigation after a violation occurs, and therefore will be part of the process of Requirement #1.

Proposal

Delete Requirement #12

Requirement #13

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RA does analysis of power system. The TOP shall implement actions in very few cases (line switching control actions and load shedding). If the TOP is to held to this requirement then there better be one for each of the other entities that the RA directs to take action (BA, IA, Generator Operators, LSE, etc.)

Proposal

Delete this requirement

Requirement #14

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

Proposal

Delete this requirement

See Comments under Requirement #12

Requirement #15:

The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.

Proposal

Delete this requirement

Requirement #16:

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

Proposal

Delete

There is no requirement to have a separate Performance Standard for a report. It seems that this would be more appropriately included in the Compliance Program. As example, as part of the Compliance Program, there would be a requirement for the RA to file a report within 72 hours of exceeding a System Operating Limit for greater than 30 minutes.

The information required in the report would be included in the compliance program. Similarly, other data which should be included in the Compliance program, but not in the Performance Standard would be:

- Type of Compliance Assessment required: Periodic Audit, Investigation, Self Assessment etc
- Applicable to
- Monitoring responsibilities

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- Compliance assessment notes
- Multipliers for penalties
- Reset Periods
- Data Retention requirements
- Occurrence period

Requirement #17:

The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits

Proposal

Delete

See Requirement #16

Other Questions

1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

Varying interpretations occur if the term "real" is used in the Standards. Each time the term is used, the "writer" should consider explaining the meaning of the term.

The term data should be explicitly defined. In the example above, the writer refers to real data, state-estimated data, and calculated data. State estimated data, calculated data, manually input data, etc. are also real.

Consideration should be given to establishing a minimum performance or accuracy and frequency of update criteria for the calculated values and accuracy and frequency criteria of telemetered data values.

2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses.

Do you agree?

Yes

No

RCs should be required to run (on-line/real-time automated studies and off line operational planning studies to identify and/or forecast bulk reliability concerns, but TOPs should not be subjected to such requirements.

What is real time? Need to define “operational planning analysis”.

STD Comment Form for 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

There should be some qualifiers that define a NERC minimum periodicity to complete reliability analysis. The RA should establish their particular cycle for doing reliability analysis, and that information should be included in their Certification documentation.

Need to define what types of analysis are expected: actual flows versus limits, contingency analysis of all possible contingencies? Analysis of only those conditions defined in the day-ahead or seasonal studies? Is the requirement to do a "reliability analysis" every day? every shift? everytime a change in system configuration demands etc.

3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Yes

No

Comments:

1) The focus is only on providing specifications for the data required. It appears to be unclear that there is no requirement to actually provide the real-time data. For example, the TOPs are required to specify and require data, but they do not appear to be required to actually PROVIDE data to RAs.

2) The certification process for the RA/TOP is not the proper means to obtain correct modeling data. It may be appropriate for real-time metering data, but much of the static data for system modelling and analysis is the same as the planning function. It should be consistent with those modelling requirements also.

3) The standard does not distinctly identify the areas of responsibility between the Reliability Authority and the Transmission Operator. Application of the standard to multiple parties ("Authorities") should clearly delineate the primary source of responsibility and ownership of any data, information, control and responsibility. What follows in the Standard are many requirements that duplicate the RA and TOP responsibilities -- who has the primary responsibility/requirement/authority for each?

4) The only provision in this standard is that data on new facilities must be provided seven days before it is energized. If operational planning studies have a scope of greater than seven days (possibly one year), then a seven-day notice is inadequate

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for these studies. There appears to be a requirement to have a standard that requires entities to provide the base data used to populate the models, in addition to the requirement to provide information on changes.

5) All assumptions should be listed in the Standard's document.

What is meant by "Real time Monitoring"? Does this refer to computer updated data a System Operator will use? If data is updated every 10 minutes, or once an hour, or once a shift, is it Real Time? If a quantity is only updated once a week or once a year, is it considered Real Time Data? The writer must be able to describe what is meant by "Real time" so that the standard can be consistently measured.

4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data.

Do you agree?

Yes

No

Comments: ...as long as this does not lead to the creation of another "industry accepted format" or require a significant change from the way data has routinely been exchanged in the past. (typically using PSS/e or PSLF powerflow raw-data formats for representational data, etc.)

44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard?

The work of the OLDTF has shown that there are differences in the interpretation and response to limit determinations and violations among the interconnections and Regions. The Standard and its compliance measurements should not dictate whether a particular RA should operate in a predictive or a responsive mode (i.e., take action in advance to prevent an overload based on predictive analysis, or take steps to mitigate an actual overload only on occurrence)

The above statement is not reflective of most comments, and represents a minority opinion for consideration.

45. Is the draft standard missing any requirements that should be added?

There is a need to clearly establish the functional relationships in a NERC document. That is, all load must either be a BA or have a BA. Each BA must have an RA. And so on. With these relationships established, the requirements can be established for the RA and the RA can establish requirements for membership through contracts. This will help to get rid of some Regional differences.

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- 1) The OLDTF has definitions that need to be considered prior to finalizing this standard.
- 2) Operating limits that should be secured should include voltage collapse transfer limits in addition to equipment ratings violations.
- 3) Confidentiality of data needs to be addressed. Transmission line flows and generator outputs have commercial implications in real-time market-based systems. The Standard should recognize this concern.

46. Which form of the Standard do you prefer?

The structure where the requirements are posed on TOP that are mirrors of RA functions are not appropriate because the RA is responsible. Should not be parallel authorities. Delegation will be dealt with another forum. Version B is not required. (This is not consistent among the commenters. Some prefer version B.

47. If you have comments on the format of the standard, please share them with us.

- 1) Subtitles should be added to sectionalize the standard and a table of contents added.
- 2) Jim Byrd presented Functional model issues to the NERC PC/OC/MIC on March 19, 2003 in Birmingham and stated that one of the major issues with the Functional model is that the functions are perceived to be organizations. Jim stated that efforts will be made to clarify that the functions are not organizations. Since all references to functions, such as, RA, BA, PA, TOP, etc. are listed in standards documents as "entities" for convenience; for example, sentences begin: "The RA shall..." instead of "Entities responsible for RA functions shall...", all NERC standards documents should contain a clarification statement explaining that the functions are not organizations and that all references to the functions should be interpreted as "entities responsible for --- function".
- 3) All assumptions should be listed in the standards document.
- 4) Footnotes of definitions should be repeated for each requirement write-up.
- 5) There should always be at least two levels of non-compliance defined.