

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Note – This form is to comment on **Version 2** of the “Assess Transmission Future Needs and Develop Transmission Plans” SAR.

The latest version of this SAR (TRNS_NDS_&_PLNS_01_02) is posted on the Standards web site at: <http://www.nerc.com/~filez/standards/Assess-Transmission-Future-Needs.html>

E-mail this form between May 5 and June 5, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

Background:

Version 1 of the “Assess Transmission Future Needs and Develop Transmission Plans” SAR was posted for a 30-day public comment period between April 2 and May 3, 2002. This first version was an abbreviated SAR, which included an “Industry Need” statement and a brief description of the proposed standard, but did not include a detailed description. The purpose of this first posting was to collect feedback from the industry on the following questions:

- Is there a reliability-related need for an Organization Standard to be developed on this topic?

If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

In January 2004, the Standards Authorization Committee (SAC) appointed a Drafting Team (DT) to address industry answers and comments to the questions posed. The DT was also charged with refining the SAR and drafting a detailed description of the proposed standard in preparation for the 2nd posting of the SAR.

Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

The revised SAR (Version 2) is posted on the NERC web site given in the blue box at the top of this form. Also posted is a Consideration of Comments document, in which the DT has responded to the original industry comments from 2002. You can find Version 1 of the SAR and industry comments on this version at the same web location.

Please review Version 2 of the SAR and complete this Comment Form to let the SAR DT know if you agree or disagree with the SAR DT’s assessment that this SAR is ready to be developed into a Standard.

Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

Commenter Information (For Individual Commenters)	
Name:	Karl Kohlrus
Organization:	City Water, Light & Power
Industry Segment #:	5
Telephone:	(217)-321-1391
E-mail:	kkohlrus@cwlp.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 #

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Multiple contingencies have lower and varying probabilities of occurrence.

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

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3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

- Yes (consider planned outages in all Categories A through D).
 Yes (consider planned outages in some Categories only).

Please specify which Categories: B and some C.

- No
 Comments:

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

- Comments:

WECC has asked the NERC PC for waivers for some of the Category C requirements.

6. Do you have any other comments on the SAR?

- Comments:

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If there is such a need, how should the scope of the SAR be changed?

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- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

In January 2004, the Standards Authorization Committee (SAC) appointed a Drafting Team (DT) to address industry answers and comments to the questions posed. The DT was also charged with refining the SAR and drafting a detailed description of the proposed standard in preparation for the 2nd posting of the SAR.

Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

The revised SAR (Version 2) is posted on the NERC web site given in the blue box at the top of this form. Also posted is a Consideration of Comments document, in which the DT has responded to the original industry comments from 2002. You can find Version 1 of the SAR and industry comments on this version at the same web location.

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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

Commenter Information (For Individual Commenters)

Name: William J. Smith

Organization: Allegheny Power

Industry Segment #: 1

Telephone: (724) 838-6552

E-mail: wsmith1@alleghenypower.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
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Name of Group:	Group Chair:	Chair Phone:
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List of Group Participants that Support These Comments:

Name	Company	Industry Segment #

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

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3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments: Allegheny Power feels that it is practical to consider planned outages in categories A and B.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments: Under “Detailed Description” the second and third paragraphs are unclear and appear to be conflicting. The first of those paragraphs specifies that the “scope of such assessments and plans is for a planning horizon of one year or more”. The second of those paragraphs specifies, “Assessments should cover a planning horizon of at least 5 years”. This appears to be a conflict. It may be that the term “planning horizon” is being used differently in these two paragraphs. It is unclear to us what is the intention of the first of those two paragraphs is.

Also under “Detailed Description on page SAR-5, the paragraph starting “While the Standard should start from...” has a problem with it’s second sentence. The sentence “For example...” does really apply to the first sentence. We recommend that this paragraph be changed as follows:

While the Standard should start from and closely align with the existing Planning Standards I.A, .B, .D, II.A,.D, the system conditions to be studied or assessed may need to be better defined or clarified.

Examples of areas that should be considered for clarification in the Standard include:

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- The Standard should clarify that the requirement to assess the performance at all demand levels does not mean that a multitude of transmission models need to be created for every possible demand level, only that a representative sample covering critical operating conditions needs to be modeled in accordance with regionally-defined criteria.
- The Standard should provide a clearer definition of “cascading outages”.*

And so on.

Also in that bulleted list, the existing 5th bullet item, “Performance requirements for Category C events shall be re-evaluated. For example, for certain Category C events , such as #2, #3 and #9 events, consider removing references to “Applicable Ratings” to clarify that the performance requirement is “no Cascading Outages are Allowed” doesn’t appear necessary. “No Cascading Outages” is already part of Table I for these events. Removing “Applicable Ratings” would not add to the clarity.

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Commenter Information (For Individual Commenters)

Name: Tom Mielnik

Organization: MidAmerican Energy Company

Industry Segment #:3

Telephone: 563-333-8129

E-mail: tcmielnik@midamerican.com

Key to Industry Segment #'s:

1 – Trans. Owners
 2 – RTO's, ISO's, RRC's
 3 – LSE's
 4 – TDU's
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(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

MidAmerican Energy believes the interconnected transmission system should be planned, designed, and constructed to withstand high probability events and to withstand low probability events with significant negative consequences. MidAmerican believes it is a waste of the ratepayers’ money to plan, design, and construct the interconnected transmission system for low probability events without significant negative consequences.

MidAmerican Energy would reclassify certain low probability events such as Category C1 events, C2 events, certain Category C3 events (two transformers, transmission circuit plus a transformer, two transmission circuits, DC line plus a transformer, DC line plus a transmission circuit, and two DC lines), C6 events, C7 events, C8 events, and C9 events to a new category between C and D with performance characteristics between that of the present Categories C and D. MidAmerican Energy would require that the interconnected transmission system be planned, designed, and constructed to protect for instability, cascading, and uncontrolled separation for the low probability events in the new sub-category.

MidAmerican Energy believes the following information supports this new reclassification by demonstrating that the events that MidAmerican recommends for reclassification are the low probability Category C events. MidAmerican recognizes that published outage data are subject to interpretation, potential inaccuracy, and change through time; however, MidAmerican believes that MidAmerican operating experience with transmission element outages supports the statistical summary provided in the following table.

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345 kV Outage Data				
Contingency	Outage Rate, occ./year	Duration, hours	Probability	Relative Likelihood
Generator B1	9	81	0.08321918	1
Two generators C3	1.5	40.5	0.00693493	12
Bipolar DC line * (Similar to B4)	1.41	21	0.00338014	24
Line * B2	0.8065	18	0.00165719	50
Transformer B3	0.0642	157	0.00115062	72
Bipolar DC Line * + Generator (Sim. to 1 Pole DC line + gen. C3)	0.1478	16.68	0.00028143	296
Line * + Generator C3	0.0820	14.7	0.00013760	605
Generator + Transformer C3	0.0157	53.4	0.00009571	870
Common tower * C5	0.007	113	0.00009030	922
Breaker Failure- Insulation Breakdown C2 RECLASSIFY THIS EVENT	0.001423	163	0.00002647	3,144
Bipolar DC line *+Bipolar DC line * (Sim. to Two 1 Pole DC lines - C3) RECLASSIFY THIS EVENT	0.009532	10.5	0.00001143	7,281
Stuck breaker C6-C9 RECLASSIFY THIS EVENT	0.00635	4	0.00000290	28,696
Line * + Line * (independent) C3 RECLASSIFY THIS EVENT	0.00267	9	0.00000275	30,262
Line * + Transformer C3 RECLASSIFY THIS EVENT	0.0010	16.1	0.00000184	45,228
Two transformers C3 RECLASSIFY THIS EVENT	0.00014774	78.5	0.00000132	63,045
Bus Section** RECLASSIFY THIS EVENT	0.0023	4.7	0.00000123	67,438

* Per 100 mile-year.

** Based upon 230 kV data.

References

1. MAPP-CSRWG, “MAPP Bulk transmission system outage report”, June 2001.
2. C. R. Heising, et al, “Final report on high voltage circuit breaker reliability data for use in substation and system studies – report on behalf of WG 13.06, in Proceedings of CIGRE Conference, Paris, 1994.
3. R. Billinton, A. A. Chowdhury, “Generating unit models using the Canadian Electricity database”, CEA Transactions, Volume 23, 1984.
4. R. N. Allan, “Concepts of data for assessing the reliability of composite systems”, IEEE Tutorial Course on Reliability Assessment of Composite Generation and Transmission Systems, Course Text 90EH0311-1-PWR.

**Comment Form for Version 2 of “Assess Transmission Future Needs and Develop
Transmission Plans” SAR (2nd Posting)**

Contact info:

Tom Mielnik, Manager
Electric System Planning
MidAmerican Energy Company
106 East Second Street
Davenport, Iowa 52801
(563)333-8129
tcmielnik@midamerican.com

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

The approach that results in the most appropriate transmission system design is the one recommended by MidAmerican Energy. Improvements should be planned for those Category C events that are high probability events regardless of the consequences. Planners should also review all Category C events for instability, cascading, and uncontrolled separation. Improvements should be planned for those Category C events (both high probability and low probability events) which have significant consequences, that is, that result in instability, cascading, and uncontrolled separation. It is MidAmerican's belief that the intent of the drafting team that originally developed the existing NERC Planning Standards was to require the NERC member to plan to protect for instability, cascading, and uncontrolled separation for Category C events.

MidAmerican believes reclassifying less likely Category C events as Category D events will result in planners ignoring low-probability contingencies that result in significant consequences: cascading, uncontrolled separation, and instability.

MidAmerican believes that allowing for “good cause exceptions” is also not the preferable approach. MidAmerican believes that the events listed by MidAmerican for reclassification are much less likely than the other Category C events generally throughout NERC. This means that these events should be reclassified in general throughout NERC and not just in certain “good cause exceptions”. (Although, it should be noted that MidAmerican does support regional differences where appropriate.) Besides, there are issues associated with the development and utilization of a process for approving “good cause exceptions”.

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

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2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments: MidAmerican Energy believes that this standard should not include requirements for reporting on the progress or status of implementing the plans developed in accordance with this standard. There are too many conditions beyond the control of the NERC member for this to be a part of a standard requiring compliance review. Complex environmental, regulatory, and political issues prevent many transmission facilities from being constructed or being constructed in a scheduled manner. The Not-In-My-Back-Yard philosophy has hit even the rural areas so that there is no part of the NERC area where a NERC member can confidently predict completion of transmission system improvements in plans. Further, conditions can change even during a year to such an extent that compliance review for implementation from one year to the next is problematic. Further, regulatory oversight provides for appropriate review of plan implementation anyway. MidAmerican urges that the SAR drafting team not pursue this well-meaning but problematic approach.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *"The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed"*.

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments:

Planned Outages can be scheduled and analyzed in advance in the operating horizon (less than one year). Therefore, it should not be necessary to require that "systems must be capable of meeting Category C requirements while accommodating the planned outage of any bulk electric equipment..." Planned outages should be studied in advance by the requesting control area and be reviewed by the governing Reliability Coordinator to determine if overloads could occur. If studies show that overloads could occur, the planned outage should be deferred or operating guides prepared which would be used in the event a contingency does occur.

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There is no need to plan or build facilities to meet Planning Standard 1.A when Planned Outages can be accommodated within the frame work of existing guidelines and procedures. Studies conducted for the operating horizon are not the subject of this standard.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

a. MidAmerican Energy urges the SAR drafting team to add Category C#1, #6, #7 and #8 events to the second from last paragraph in the SAR which describes considering removing references to “Applicable Ratings” to clarify the performance requirement for certain Category C events.

b. MidAmerican Energy urges the SAR drafting team to direct the Standard Drafting Team to remove references to “Applicable Ratings” from all events listed in the second to last paragraph because information is readily available which demonstrates that the listed events are much less likely than other Category C events.

c. MidAmerican Energy urges the SAR drafting team to add the following words to the third paragraph from the end to more clearly explain the SAR drafting team’s position with regard to planned outages:

“In particular, it is incorrect to have a requirement to exhaustively test for every contingency described in each category plus every conceivable planning outage.

Planned Outages can be scheduled and analyzed in advance in the operating horizon (less than one year). Therefore, it should not be necessary to require that "systems must be capable of meeting Category C requirements while accommodating the planned outage of any bulk electric equipment..." Planned outages should be studied in advance by the requesting control area and be reviewed by the governing Reliability Coordinator to determine if overloads could occur. If studies show that overloads could occur, the planned outage should be deferred or operating guides prepared which would be used in the event a contingency does occur.

There is no need to plan or build facilities to meet Planning Standard 1.A when Planned Outages can be accommodated within the frame work of existing guidelines and procedures. Studies conducted for the operating horizon are not the subject of this standard.

Therefore, the SAR drafting team directs the standard drafting team to delete the requirement for the prior planned outage from the standard given that known planned outages must be included in studies that are conducted during the operating horizon which are not the subject of this standard but which are required in accordance with NERC Standard 200, “Operate Within Interconnection Reliability Operating Limits Standard” and NERC Standard 600, “Determine Facility Ratings, Operating Limits, and Transfer Capabilities”.

d. MidAmerican Energy urges the SAR drafting team to include the following statement in the SAR:

“The Standard should clarify how breaker failure events (Category C2, C6, C7, C8, and C9 events) are to be considered given that operating a breaker with disconnects open or eliminating a breaker are technically acceptable mitigation schemes for such events. Such mitigation schemes actually result in less reliable system designs and system operating configurations. Thus including Applicable Ratings in the Standard for these lower probability breaker failure events can send the wrong reliability signals to NERC members.”

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This paragraph reflects another reason why breaker failure events should be reclassified such that Applicable Ratings is no longer considered a requirement for these low probability events.

e. MidAmerican Energy urges the SAR drafting team to consider not reclassifying any of the Category C events to Category D but instead deleting the Applicable Rating requirements from the lower probability Category C events. MidAmerican believes that the performance requirements for lower probability Category C events should be to protect for cascading, instability, and uncontrolled separation. It is MidAmerican’s belief that this was the intent of the drafting team that originally developed the existing NERC Planning Standards.

f. MidAmerican Energy is concerned that the SAR does not provide for the coordination of the requirements of the planning standards in NERC Standard 500, “Assess Transmission Future Needs and Develop Transmission Plans”, with the NERC Operating Standards provided in NERC Standard 600, “Determine Facility Ratings, Operating Limits, and Transfer Capabilities.” The criteria that are proposed as a starting point for 500 in this SAR (events from Categories A through D) differ from the criteria that are included in the latest draft of NERC Standard 600 (Categories A and B). If these approaches are continued, then studies run for the operating horizon will differ significantly from studies run for the planning horizon. These differences in studies will carry over to the calculation of quantities used to offer transmission service, that is, Total Transfer Capacity and Available Transmission Capacity. If NERC does not coordinate these two standards, there will be a discontinuity in TTC and ATCs when the Planning Horizon begins and the Operating Horizon ends or from one day less than one year to one year. MidAmerican urges the SAR drafting team to consider this discontinuity and coordinate the SAR for 500 with the Standard that is being written for 600. If a discontinuity between criteria is allowed to continue in the SAR for Standard 500, the SAR drafting team should have a clear explanation for all market participants as to the reason for the discontinuity and how that should be dealt with by the elements of the NERC Functional Model.

g. In general, MidAmerican Energy supports the six bullets that the SAR drafting team has provided on page SAR-5 with the amendments and additions described above in our comments. These bullets add needed details to the SAR.

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E-mail this form between May 1 and May 31, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

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- Is there a reliability-related need for an Organization Standard to be developed on this topic?

If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

In January 2004, the Standards Authorization Committee (SAC) appointed a Drafting Team (DT) to address industry answers and comments to the questions posed. The DT was also charged with refining the SAR and drafting a detailed description of the proposed standard in preparation for the 2nd posting of the SAR.

Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

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**
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- 9 - Federal, State, and Provincial
Regulatory or other Govt. Entities

Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: MAPP Planning Standards Development Working Group	Group Chair: Tom Mielnik Chair Phone: 563-333-8129 Chair Email: tcmielnik@midamerican.com	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
Tom Mielnik	MEC	2
Delyn Helm	GRE	2
David Jacobson	MH	2
Dennis Kimm	MEC	2
Dean Schiro	XEL	2
Jason Weiers	OTP	2
Steve Sanders	WAPA	2

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Comments: The definition of applicable ratings needs to be clarified. The SAR DT should also indicate if it is feasible to have different applicable ratings for different categories of events.

The SAR DT should review the history of the original classification. This review should include all classes. If outage statistics are used to classify events, how many years of data are appropriate? If the data window is too small, the results will be skewed. Moreover, is it appropriate to use outage data for all these categories of events? Outage data over a long period of time may provide insight into equipment performance, but is it appropriate to reflect weather related contingency events – the data may not reflect the effect of a once in a 100 year storm?

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

MAPP would reclassify certain low probability events such as Category C1 events, C2 events, certain Category C3 events (two transformers, transmission circuit plus a transformer, two transmission circuits, DC line plus a transformer, DC line plus a transmission circuit, and two DC lines), C6 events, C7 events, C8 events, and C9 events to either a new category between C and D with performance characteristics between that of the present Categories C and D or to Category D. MAPP would require that the interconnected transmission system be planned, designed, and constructed to protect for instability, cascading, and uncontrolled separation for the low probability events in the new sub-category. Regions should develop procedures for determining that systems are properly protected for instability, cascading and uncontrolled separation.

MAPP believes the following information supports this new reclassification by demonstrating that the events that MAPP recommends for reclassification are the low probability Category C events. MAPP recognizes that published outage data are subject to interpretation, potential inaccuracy, and change through time; however, MAPP believes that MAPP operating experience with transmission element outages supports the statistical summary provided in the following table.

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345 kV Outage Data				
Contingency	Outage Rate, occ./year	Duration, hours	Probability	Relative Likelihood
Generator B1	9	81	0.08321918	1
Two generators C3	1.5	40.5	0.00693493	12
Bipolar DC line * (Similar to B4)	1.41	21	0.00338014	24
Line * B2	0.8065	18	0.00165719	50
Transformer B3	0.0642	157	0.00115062	72
Bipolar DC Line * + Generator (Sim. to 1 Pole DC line + gen. C3)	0.1478	16.68	0.00028143	296
Line * + Generator C3	0.0820	14.7	0.00013760	605
Generator + Transformer C3	0.0157	53.4	0.00009571	870
Common tower * C5	0.007	113	0.00009030	922
Breaker Failure- Insulation Breakdown C2 RECLASSIFY THIS EVENT	0.001423	163	0.00002647	3,144
Bipolar DC line *+Bipolar DC line * (Sim. to Two 1 Pole DC lines - C3) RECLASSIFY THIS EVENT	0.009532	10.5	0.00001143	7,281
Stuck breaker C6-C9 RECLASSIFY THIS EVENT	0.00635	4	0.00000290	28,696
Line * + Line * (independent) C3 RECLASSIFY THIS EVENT	0.00267	9	0.00000275	30,262
Line * + Transformer C3 RECLASSIFY THIS EVENT	0.0010	16.1	0.00000184	45,228
Two transformers C3 RECLASSIFY THIS EVENT	0.00014774	78.5	0.00000132	63,045
Bus Section** RECLASSIFY THIS EVENT	0.0023	4.7	0.00000123	67,438

* Per 100 mile-year.

** Based upon 230 kV data.

References

1. MAPP-CSRWG, “MAPP Bulk transmission system outage report”, June 2001.
2. C. R. Heising, et al, “Final report on high voltage circuit breaker reliability data for use in substation and system studies – report on behalf of WG 13.06, in Proceedings of CIGRE Conference, Paris, 1994.
3. R. Billinton, A. A. Chowdhury, “Generating unit models using the Canadian Electricity database”, CEA Transactions, Volume 23, 1984.
4. R. N. Allan, “Concepts of data for assessing the reliability of composite systems”, IEEE Tutorial Course on Reliability Assessment of Composite Generation and Transmission Systems, Course Text 90EH0311-1-PWR.

**Comment Form for Version 2 of “Assess Transmission Future Needs and Develop
Transmission Plans” SAR (2nd Posting)**

Contact info:

Tom Mielnik, Chair
MAPP Planning Standards Development Working Group
MidAmerican Energy Company
106 East Second Street
Davenport, Iowa 52801
(563)333-8129
tcmielnik@midamerican.com

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

If the events are low probability, then some should be considered for moving to Cat D.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Improvements should be planned for those Category C events that are high probability events regardless of the consequences. Planners should also review all Category C events for instability, cascading, and uncontrolled separation. Improvements should be planned for those Category C events (both high probability and low probability events) which have significant consequences, that is, that result in instability, cascading, and uncontrolled separation.

MAPP believes that allowing for “good cause exceptions” is not the preferable approach. MAPP believes that the events listed by MAPP for reclassification are much less likely than the other Category C events generally throughout NERC. This means that these events should be reclassified in general throughout NERC and not just in certain “good cause exceptions”. (Although, it should be noted that MAPP does support regional differences where appropriate.) Besides, there are issues associated with the development and utilization of a process for approving “good cause exceptions”.

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Comments: Requirements for reporting on the progress or status of implementing the plans should be left to the regions and appropriate regulatory bodies. The MAPP Regional Transmission Committee currently has a regional planning process for compliance for implementing transmission plans.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments:

Planned Outages can be scheduled and analyzed in advance in the operating horizon (less than one year). Therefore, it should not be necessary to require that "systems must be capable of meeting Category C requirements while accommodating the planned outage of any bulk electric equipment..." Planned outages should be studied in advance by the requesting control area and be reviewed by the governing Reliability Coordinator to determine if overloads could occur. If studies show that overloads could occur, the planned outage should be deferred or operating guides prepared which would be used in the event a contingency does occur.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

a. MAPP urges the SAR drafting team clarify the meaning of the term “Applicable Ratings” and determine if it is possible to have different A/Rs for different categories.

b. MAPP urges the SAR drafting team to add words to the third paragraph from the end to more clearly explain the SAR drafting team’s position with regard to prior planned outages.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

c. MAPP is concerned that the SAR does not provide for the coordination of the requirements of the planning standards in NERC Standard 500, “Assess Transmission Future Needs and Develop Transmission Plans”, with the NERC Operating Standards provided in NERC Standard 600, “Determine Facility Ratings, Operating Limits, and Transfer Capabilities.” The criteria that are proposed as a starting point for 500 in this SAR (events from Categories A through D) differ from the criteria that are included in the latest draft of NERC Standard 600 (Categories A and B). If these approaches are continued, then studies run for the operating horizon will differ significantly from studies run for the planning horizon. These differences in studies will carry over to the calculation of quantities used to offer transmission service, that is, Total Transfer Capacity and Available Transmission Capacity. If NERC does not coordinate these two standards, there will be a discontinuity in TTC and ATCs when the Planning Horizon begins and the Operating Horizon ends or from one day less than one year to one year. MAPP urges the SAR drafting team to consider this discontinuity and coordinate the SAR for 500 with the Standard that is being written for 600. If a discontinuity between criteria is allowed to continue in the SAR for Standard 500, the SAR drafting team should have a clear explanation for all market participants as to the reason for the discontinuity and how that should be dealt with by the elements of the NERC Functional Model.

d. MAPP notes that Standard 600, “Determine Facility Ratings, Operating Limits, and Transfer Capabilities” has been drafted to do away with the references to Categories A through D. The criteria are just listed in the standard. MAPP asks that the SAR drafting team require that the standard drafting team for Standard 500 also eliminate the category references to be consistent with the Standard 600 approach.

e. MAPP is concerned that the SAR does not limit manual or automatic readjustments for certain lower probability or low consequence events. MAPP urges that the SAR drafting team add additional provisions to require the drafting team to consider which manual and automatic readjustments are allowed and when in meeting the criteria that is included in the standards.

f. MAPP is concerned that there is no provision for recognizing the variability of generation in the SAR. MAPP asks the SAR drafting team add another bullet to the SAR which states, “The Standard should take into account the variability of generation due to factors such as weather and time of day.”

g. MAPP is concerned that there is no reference in the SAR to the need to handle firm contracts that may roll-over in the futures. Plans developed for the transmission system must recognize that the transmission system must have sufficient capacity to handle roll-overs. MAPP urges the SAR drafting team to include an appropriate description of the requirement for the plans with regard to roll-overs.

h. MAPP asks that the SAR drafting team add a bullet to the SAR that requires that the Standard drafting team to consider the development of reactive power margin and transfer power margin standards which expand beyond existing NERC Standard I.D.

i. In general, MAPP supports the six bullets that the SAR drafting team has provided on page SAR-5 with the amendments and additions described above in our comments. These bullets add needed details to the SAR.

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Commenter Information (For Individual Commenters)

Name: **John Horakh – May 27, 2004**

Organization: **MAAC**

Industry Segment #: **2**

Telephone: **609-625-6014**

E-mail: **john.horakh@conectiv.com**

- Key to Industry Segment #'s:**
- 1 – Trans. Owners**
 - 2 – RTO's, ISO's, RRC's**
 - 3 – LSE's**
 - 4 – TDU's**
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Name of Group:	Group Chair:	Chair Phone:
	Chair Email:	

List of Group Participants that Support These Comments:

Name	Company	Industry Segment #

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a “check” mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes, but see comments below

No

Comments: Categories B, C and D should be renamed as follows –

Category B – High Probability Contingency Event

Category C – Medium Probability Contingency Event

Category D – Low Probability Contingency Event

The difference in the categories should NOT be stated in terms of how many elements are out of service, but rather should be stated in terms of the PROBABILITY of the initiating event that occurs. The difference in the categories is in the “stress” the system is allowed to experience and in the “fix” required. For B, a high probability event, stress should be low and the only fix allowed is system reinforcement. For D, a low probability event, severe system stress is allowed, and system reinforcement is not mandated. C is somewhere in between, a medium probability, with medium system stress permitted, and some loss of load and/or curtailment of transfers allowed in lieu of system reinforcement. Table I can then be simplified by removing the column labeled “Elements Out of Service”, because it is unnecessary and not relative. Actually, the columns labeled “Thermal Limits”, “Voltage Limits”, “System Stable” and “Cascading Outages” can be eliminated too, because they are the same for each Category A, B and C (but notes for each column should be retained).

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments: NONE OF THE ABOVE. Keep the three categories, but rename them as in 1.a. above. Adding an additional category would introduce too much confusion in planning the system. Assuming that the contingencies in B, C and D are already in their correct probability categories, no changes need to be made. If someone could prove that a contingency in B is Low Probability the same as the contingencies in D, that contingency could be moved.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments: Reporting should be on a “delay” basis. Known delays to the plan should be reported, along with the reason for the delay and use of alternate solutions.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan? **See answer to 2. Above.**

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories: **Categories A and B, which are high probability and therefore could easily occur during a planned outage.**

No

Comments:

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

**Comment Form for Version 2 of “Assess Transmission Future Needs and Develop
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Comments:

6. Do you have any other comments on the SAR?

Comments:

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STD Commenter Information (For Groups Submitting Group Comments)

Name of Group: SERC EC Planning Standards Subcommittee	Group Chair: Bob Jones Chair Phone: (205) 257-6148 Chair Email: rajones@southernco.com
---	---

List of Group Participants that Support These Comments:

Name	Company	Industry Segment #
Darrell Pace	Alabama Electric Cooperative, Inc	1
Brian D. Moss	Duke Power Company	1
Kham Vongkhamchanh	Entergy Services, Inc.	1
Clay Young	South Carolina Electric & Gas Company	3
Arthur E. (Art) Brown	South Carolina Public Service Authority	1
Bob Jones	Southern Company Services, Inc.	1
Byron Stewart	Tennessee Valley Authority	1
Pat Huntley	SERC Staff	2

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a “check” mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

X Comments: The SERC PSS believes that Category C events are more likely to occur than Category D events and should require higher performance expectations.

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

X Comments: The SERC PSS agrees that low consequence Category C events should be considered compliant. However, as we interpret Table I, a Category C event that results in low consequences (e.g. no cascading) is already considered compliant since entities can drop load or curtail firm transfers to return to applicable thermal or voltage ratings.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Comments:

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

X Comments: The SERC PSS agrees that the requirement to consider planned outages in addition to each Category A and B contingency remain part of this planning standard. The SERC PSS could not reach consensus on the requirement to consider planned outages in addition to each Category C and D contingency. However, the SERC PSS does agree that exhaustive testing for every contingency described in each category is not required. The I.A compliance templates state that they must “Be performed and evaluated only for those Category [B, C, and D] contingencies that would produce the more severe system results or impacts.”

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain. No

Comments:

6. Do you have any other comments on the SAR?

X Comments: The SERC PSS agrees that the Standard should provide a clearer definition of “cascading outages.” In addition the SERC PSS recommends that the Standard provide a clearer definition of what is meant by “system stable.”

The SERC PSS agrees that the Standard should not address resource planning, however the standard should include requirements for LSEs to provide forecast resource data required to develop power flow models as required in the current II.D standards. Accordingly, this standard should also apply to LSEs.

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Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Commenter Information (For Individual Commenters)

Name: Robert Snow

Organization: Robert Snow

Industry Segment #: 8

Telephone: 973 763 0832

E-mail: familysnow@aol.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 #

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments: **Without a rigorous Probabilistic Risk Analysis, moving any of these events to a category D event is bad practice. All of the events have occurred at one time or another, especially circuit breaker and bus faults. Moving them to a category D essentially removes them from requiring action to mitigate/solve the impact on reliability.**

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

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Comments: Developing plans without a follow up program is a waste of time and money. One of the most telling comments from the August Blackout report was that a number of the items were the same as in other blackouts.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan? When there is a significant change in the assumptions, the plan needs to be re-studied and revised as appropriate. The SAR must require such re-studies. Any plan is only as good as its assumptions. Whenever there is a significant change in the assumptions, the plan needs to be revised to account for the change. Having a plan that assumes there will be specific generation projects is worthless when those specific projects are changed, cancelled or if other generation retires.

4. Existing Planning Standard I.A requires: *"The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed"*.

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories: Categories A through C should be considered. Category D does not require action so the analysis with outages does not add anything. Most planning software allows the use of scripts to run multiple analysis without intervention. The state of modern computers is such that the added testing is not significant. Also, for most systems, this type of analysis is performed to define which load levels and generation dispatch would allow the maintenance (the problem in reverse).

No

Comments:

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments: Each region has their own requirements.

6. Do you have any other comments on the SAR?

Comments:

Second Paragraph: Replace the second sentence with "The planning horizon is intended to provide for facility additions. Operating procedures shall not be used as a substitute for good system design and shall only be applicable during maintenance outages and while facilities are being constructed." (The original language would allow what was identified as the root cause of the Italian blackout. Namely, an operating procedure that had to be executed within 15 minutes. The operator had to call another area and ask for them to perform an operating procedure. The procedure was underway but

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did not happen fast enough to avoid the next line to trip. Operating procedures should never be a long term substitute for constructing facilities needed to assure reliability.)

Third Paragraph: While some of the information about generation additions and load growth are considered reliable for five (5) years, a long-term study of approximately ten (10) years is necessary to identify global issues such as import limitations to a region that would require projects that have traditionally taken more than five (5) years. Suggest, “Assessments shall cover a detailed planning horizon consistent with available information but no less than five (5) years. The five year horizon shall include load growth, new internal and external firm generation, generation retirements/failures, uncontrollable loop flows, reliance on external generation (identify both firm and market), topology changes, and firm transactions. A longer term study using a variety of scenarios that are expected to cover the most likely long term activity, shall be conducted to identify projects that take longer than five years to implement.”

Fourth Paragraph: The standards should apply to transmission owners, transmission operators, transmission planners, anyone who is connecting facilities to the transmission system, control areas, and reliability coordinators.

Fifth Paragraph: Add the following after the bullets. “In addition to the above, the standard shall provide requirements on methodology of forecasting and normalizing load. This would include methods of determining the normalized load over a large geographic area with different weather patterns and norms. The “normalized” load should not be the load associated with the median weather over a summer or winter period but the load level that will provide sufficient reliability to supply all firm load obligations. Each region shall provide a definition as to what is sufficient reliability. The definition shall clearly define the risk that is being assumed in terms similar to the LOLE for lack of generation. In addition to the above two risk variables, a methodology shall be identified to quantify the risk of not being able to deliver the difference between the local load and generation. This is essentially the ability of the transmission system to respond to different generation dispatch patterns.”

Sixth Paragraph: Replace the last phrase in the last sentence with “while the standard will not prescribe specific tools, it shall identify methodologies to validate and procedures to operate the tools so that the identified outcomes from the analysis are not dependent on the tool or the way the tool was used or initialized.”

Under the section of “Other Examples ...”

3rd Bullet: Add a sentence after the first sentence “The probabilistic methodology shall not ignore specific cases that would result in significant load dump or cascading outages. Each region shall identify how to resolve such outages.” The last sentence “Acceptable levels of risk in terms of maximum consequential and programmatic load dump and maximum durations for the outages shall be defined.”

5th bullet: Clarify that the “applicable ratings” for multiple events should be consistent with supplying firm load and firm transactions until the outages are repaired or switching mitigates the overloads. For example, one applicable rating would be the short time rating of equipment that was stressed when a transformer failed. However, there must be a method of supplying the load pocket for the duration to repair/replace the transformer that does not involve long term rotating blackouts. Just achieving “no cascading outages” is not sufficient.

New section: The subject of assuring the generation is deliverable to the load should be added. This should not be vague but should be defined by a specific set of tests and the expected range of results. In doing these tests, reliance on capacity assigned to other regions should be limited to amounts identified and accepted by adjacent regions. For example, if a region is assuming it will have net purchases from adjacent regions, the other regions must show a net sale.

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Commenter Information (For Individual Commenters)

Name: Kirit S. Shah
 Organization: Ameren
 Industry Segment #: 1
 Telephone: (314) 554-3542
 E-mail: kshah@ameren.com

Key to Industry Segment #'s:

- 1 – Trans. Owners**
- 2 – RTO’s, ISO’s, RRC’s**
- 3 – LSE’s**
- 4 – TDU’s**
- 5 - Generators**
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Please Review Version 2 of the SAR and Answer the Following Questions

Insert a “check” mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

All category C outages that have a direct impact on serving load because of the system configuration (straight bus or tapped load) should be reclassified, including C-1, C-2, C-5, and C-9 to provide more latitude. For category C events, we should be more concerned that the system holds together and not that the local load may be at risk for these multiple contingency events.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice: Reclassify C-1,C-2, and C-9 to category D (less probable events).

C-3 (line and a generator combination) should be reclassified as category B event (more probable than other C-3 events. Also, why is a loss of a tower line with two circuits category C (C-5) while loss of a tower line with 3 circuits is category D (D-6), though a probability of loss of a tower line may be the same ? We may want to be consistent in categorizing the event – loss of a multi-circuit tower line.

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

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Yes

No

Comments: The requirement should not be onerous.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

(i) Annual update with a short note to document changes.

(ii) Smaller projects (cap bank addition, change of terminal equipment like switches, wavetraps, or CT) may be combined as a group in such reporting to avoid providing a long list of updates.

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments: (i) Is the issue planning the system or granting the outage? Local load may be exposed for granting a maintenance/construction outage, but the system should not be at risk.

(ii) If the system is planned with category C requirements, in most cases it should meet category A and B requirements during a planned outage. To meet requirements of categories A and B during planned outage should be adequate.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

A. We believe that for planning of robust transmission system, the Standard should include (1) some incremental transfer capability requirement in addition to what is “projected” or modeled in the base case, (2) a combination of a line and a generator outage should be included in category B.

B. Page SAR-4, Paragraph 2, last phrase states that “...there is no intent to exclude appropriate operating procedures...”. What is “appropriate”? Could generation redispatch be an appropriate operating procedure? If yes, what level of redispatch is appropriate?

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The standard should include definition of “appropriateness” of operating procedures so that they are developed and applied on an uniform and consistent basis.

- C. Page SAR-4, Paragraph 4: Should the requirements be applied to Transmission Owners also?
- D. Page SAR-4, Paragraph 6, Why document and disclose of methodology limited to planned generation only? What about planned transmission and interchange? Is it because there is more uncertainty for speculative generation than transmission? What about differences in modeling details require for different type of analyses, such as thermal or voltage, regional or local? It is our experience that more detailed representation (lower voltage facilities) is required for voltage analysis than thermal analysis. Perhaps the standard should state that additional detail may need to be added to the model to adequately represent the system for specific studies.
- E. Page SAR-5, Paragraph 1: If generation is considered in lieu of transmission reinforcement, the system must be able to withstand the loss of that generation plus another single contingency. The reason for this is that generation can be on or off due to economic and other factors after its installation, while transmission is almost always “on”.
- F. Other example of areas that should be considered for clarification is :
 - The “projected level of transfers” defined in the Standard – what does this include? Should it include/consider all transmission reservations including roll-over-rights?
- G. SAR-5, Bullet #1: In addition to the definition of “cascading outages” , clarification is needed for identification of a cascading state. For example, we are not sure that assumption of some percent overload, say 125% of emergency rating, is a good proxy for cascading.
- H. Page SAR-5, Bullet# 3: the second statement states that “The minimum requirements of probabilistic methods are the contingencies as described in Table 1 of existing Planning Standard I.A. “ Does this mean that probability should be assigned to at least all of the contingencies included in Table I.A.?
- I. Page SAR-5, Bullet #3: We believe that defining acceptable levels of risk will be a major undertaking. Isn't the level of risk is dependent upon the entity and/or perception? Using a deterministic methodology in the planning horizon for single contingency provides a margin to handle many multiple unplanned facility outages or unforeseen system conditions in operating horizon.
- J. Page SAR-5, Bullet# 4: Planned outages for maintenance or construction are generally managed in the operating horizon, and are granted only during specific load levels (off-peak), generation patterns, and interchange patterns when the transmission system is not expected to be fully utilized. We agree that clarification should be provided on how this information should be used in an assessment. However, as the scope of planning assessments is for the planning horizon of one year or more (SAR-4, paragraph 2) and not the operating horizon, we do not believe that the requirement for planning for maintenance outages should be included in planning assessments.
- K. Page SAR-5, Bullet# 5: We agree that some of the contingency categories should be reviewed. See our response to Item 1 C.
- L. Page SAR-5, Bullet# 6: We assume that short circuit current refers to fault duty or interrupting current.

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Commenter Information (For Individual Commenters)

Name: Jim Useldinger

Organization: Kansas City Power & Light

Industry Segment #: 1

Telephone: 816-654-1212

E-mail: jim.useldinger@kcpl.com

Key to Industry Segment #'s:

- 1 – Trans. Owners**
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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice: KCP&L supports the recommendation that the Standard should allow for the development and use of probabilistic planning methods in reliability assessment.

Comments: KCP&L does not support any reclassification of the existing Category's. The probability of occurrence of some contingencies may, in actuality, be very low. However, this should not diminish the importance of their assessment in the Category that they are currently found.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

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Comments:

KCP&L supports a requirement for reporting the status of implementing the mitigation plans. On a regional basis, mitigation plans should be reported by the Transmission Planner, as a minimum, on an annual basis through the regional model building process and assessed through the regional assessment studies performed by the Regional Reliability Coordinator.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

Any out-of-cycle changes to the mitigation plan should be reported to the Reliability Coordinator and re-evaluated on an as-needed basis. Coordinated planning between other regions and entities will be critical.

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

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Please specify which Categories:

No

Comments:

Planned outages are typically short-term (less than 1 year) and should be considered in the operating horizon. A planned outage is typically allowed during system load conditions when they will have minimal impact on the system.

KCP&L would prefer to clarify the existing Category B contingency that states “Loss of an element without a fault” be listed as the B5 contingency on the Table. Then, in Category C under Contingency 3, the revised wording should read “3. Category B (B1, B2, B3, B4, or B5) contingency, manual system adjustments, followed by another Category B (B1, B2, B3, B4, or B5) contingency. This will allow for the first contingency to include a planned outage (B5 without a fault) as well as a contingency with one of the fault conditions described in B1, B2, B3, and B4.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

KCP&L is aware of neighboring regional council differences in classification of Category B and C contingencies between SPP and MAPP.

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Comments:

In regards to developing accurate regional models, all known firm transmission service including rollover provisions for all firm transmission service should be included in the base case models.

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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

Commenter Information (For Individual Commenters)

Name: Donald D. Taylor, PE, NSPE

Organization: Westar Energy, Inc.

Industry Segment #: 1

Telephone: 785-575-6430

E-mail: Don_Taylor@wr.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 #

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a “check” mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments: “Loss of single component without a fault” should become Category B5 and be included in the listing of items in category C3.

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice: Once an analysis has been performed, a subsequent “assessment” can easily dismiss low consequence events. However, low probability with high consequence should not be granted an exception. The initial premise of the Planning Standards did not contemplate probabilistic or Monte Carlo analysis.

Comments: “Good Cause Exception” must be carefully defined before entities are allowed to shield high consequence events regardless of probability of occurrence.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Comments: Having a “plan” that is not implemented is of no value.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

In the annual process to update power flow models, there are necessarily changes to the load forecast, use of the interconnected network, and financial constraints which must be taken into account. Reporting to the Regional Reliability Organization should include a discussion of substantive changes and reasons behind them. There should not be a judgment made by the RRO that the explanation is “adequate” so long as the explanation is made. The changes are critical information that must be taken into account when evaluating transmission service requests. Reporting should not be more frequent than the model-building cycle.

Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories: Categories A through C.

No

Comments: The notion of including maintenance outages is to ensure that system restorations correctly evaluate single elements that would be removed in groups under a breaker-to-breaker outage analysis. The intent should not be to have any single element out for maintenance AND withstand the next contingency and should be stated as such.

4. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments: Yes. MAPP categorizes some contingencies differently.

5. Do you have any other comments on the SAR?

Comments: How will this SAR integrate with the Version 0 Standards?

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Note – This form is to comment on **Version 2** of the “Assess Transmission Future Needs and Develop Transmission Plans” SAR.

The latest version of this SAR (TRNS_NDS_&_PLNS_01_02) is posted on the Standards web site at: <http://www.nerc.com/~filez/standards/Assess-Transmission-Future-Needs.html>

E-mail this form between May 5 and June 5, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

Background:

Version 1 of the “Assess Transmission Future Needs and Develop Transmission Plans” SAR was posted for a 30-day public comment period between April 2 and May 3, 2002. This first version was an abbreviated SAR, which included an “Industry Need” statement and a brief description of the proposed standard, but did not include a detailed description. The purpose of this first posting was to collect feedback from the industry on the following questions:

- Is there a reliability-related need for an Organization Standard to be developed on this topic?

If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

In January 2004, the Standards Authorization Committee (SAC) appointed a Drafting Team (DT) to address industry answers and comments to the questions posed. The DT was also charged with refining the SAR and drafting a detailed description of the proposed standard in preparation for the 2nd posting of the SAR.

Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

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Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Commenter Information (For Individual Commenters)

Name: Ed Davis
 Organization: Entergy Services, Inc
 Industry Segment #: 1 – Trans. Owner
 Telephone: 504-310-5884
 E-mail: edavis@entergy.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
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- 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 #

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a “check” mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

- Entergy believes that Category C events are more likely to occur than Category D events and should require higher performance expectations.

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

- Entergy agrees that low consequence Category C events should be considered compliant. However, as we interpret Table I, a Category C

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

event that results in low consequences (e.g. no cascading) is already considered compliant since entities can drop load or curtail firm transfers to return to applicable thermal or voltage ratings.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments:

- It is not necessary to include planned maintenance outages in addition to Category A (no contingencies) because Category A plus planned outages equals Category B (single contingency). Therefore inclusion of maintenance outages in Category A is superfluous. The current standards do not require planned outages with Category A for that very reason.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Maintenance outages should be considered for only Category B and C contingencies.

Category D recognizes that cascading will occur in conjunction with the contingencies, so adding on more planned outages seems unnecessary, especially since Category D outages are very low probability events.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

- Entergy agrees the standard should not address resource planning. However, the standard should include requirements for the LSEs to provide forecast resource data required to develop power flow models. Accordingly, this standard should also apply to LSEs.

- In addition, the standard should require the Transmission Planner to document and describe the methodology used to plan the transmission system around the generation dispatch assumptions used by the Transmission Planner to meet the LSE load when and if the LSE provided resources do not equal the LSE provided load.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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E-mail this form between May 5 and June 5, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

Background:

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- Is there a reliability-related need for an Organization Standard to be developed on this topic?

If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

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Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

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Please review Version 2 of the SAR and complete this Comment Form to let the SAR DT know if you agree or disagree with the SAR DT’s assessment that this SAR is ready to be developed into a Standard.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Commenter Information (For Individual Commenters)	
Name: K. Bachor, Dir. of Transmission Services S. Wallace, Dir. of System Operations	
Organization: Seminole Electric Cooperative	
Industry Segment #: 4	
Telephone: (813) 963-0994	
E-mail:	

<p>Key to Industry Segment #'s:</p> <p>1 – Trans. Owners</p> <p>2 – RTO’s, ISO’s, RRC’s</p> <p>3 – LSE’s</p> <p>4 – TDU’s</p> <p>5 - Generators</p> <p>6 - Brokers, Aggregators, and Marketers</p> <p>7 - Large Electricity End Users</p> <p>8 - Small Electricity Users</p> <p>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:	Group Chair:	Chair Phone:
	Chair Email:	

List of Group Participants that Support These Comments:

Name	Company	Industry Segment #

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments:

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

In Florida, with the state requirements for the siting of facilities, the planning horizon should be adjusted from 5 YRS to 8 YRS. The 5 YR horizon is too short for some major transmission line projects and/or studies of transmission interconnections/upgrades for base load central station generating facilities.

6. Do you have any other comments on the SAR?

Comments:

- SAR Paragraph 6: “... the Standard shall require that system models be developed, maintained ...”
it is recommended that these models be “region-wide” system models that are developed utilizing a documented, consistent, region-wide criteria
- SAR Paragraph 10: “... a representative sample covering critical operating conditions ...”
It is recommended that this standard include specific requirements; such as, at what load levels and how many different load levels is intended by this part of the SAR. A suggestion would be 100% and 80%, and perhaps the 60% load level.
- SAR Paragraph 11 Bullet 4: Many grid operations difficulties occur when a line is scheduled out for maintenance. If this SAR is going to address required N-2 planning assessments, then it must be clear and specific regarding the conditions when N-2 assessments are appropriate and the specific criteria for N-2 assessments.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Additional Comments:

- The SAR should define specific planning voltage criteria for consistency between transmission owners/providers. Voltage Criteria should be specifically defined for normal condition and N-1 conditions and can be specified differently for:
 - Bulk power - non-load serving buses
 - Meshed/Looped - load serving buses
 - Radial - load serving buses
- The SAR should require joint transmission planning - at a minimum, joint transmission planning should be required between transmission service providers and their network service customers.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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E-mail this form between May 1 and May 31, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

Background:

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- Is there a reliability-related need for an Organization Standard to be developed on this topic?

If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

In January 2004, the Standards Authorization Committee (SAC) appointed a Drafting Team (DT) to address industry answers and comments to the questions posed. The DT was also charged with refining the SAR and drafting a detailed description of the proposed standard in preparation for the 2nd posting of the SAR.

Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

The revised SAR (Version 2) is posted on the NERC web site given in the blue box at the top of this form. Also posted is a Consideration of Comments document, in which the DT has responded to the original industry comments from 2002. You can find Version 1 of the SAR and industry comments on this version at the same web location.

Please review Version 2 of the SAR and complete this Comment Form to let the SAR DT know if you agree or disagree with the SAR DT’s assessment that this SAR is ready to be developed into a Standard.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

<p>Commenter Information (For Individual Commenters)</p>
<p>Name: Alan Adamson</p>
<p>Organization: New York State Reliability Council</p>
<p>Industry Segment # 2</p>
<p>Telephone: (518) 355-1937</p>
<p>E-mail: aadamson@nycap.rr.com</p>

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

List of Group Participants that Support These Comments:

Name	Company	Industry Segment #

Please Review Version 2 of the SAR and Answer the Following Questions

General Comment: It is the New York State Reliability Council's (NYSRC) position that NERC should not weaken existing criteria, including the NERC Planning Standards listed in the SAR as the starting point to be used in drafting a new standard. Therefore, with the advent of the Version 0 standards, we believe that there is no longer a need for this SAR. The comments in the "Consideration of Industry Comments" paper indicate that comments received in 2002 on SAR Version 1 were in favor of a standard on transmission assessment and planning, which was the SAR DT's reason for preparing this SAR. However, the Version 0 standards development process will now provide a transmission planning standard, without requiring the preparation of this new SAR. The comments below support our position that the existing Planning Standards should not be weakened.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

NYSRC Comment: In accordance with the NERC process for developing reliability standards, an entity may include a Regional Difference as part of the NERC standard if there is such a condition. Therefore, there is no need for the standard to include "good cause exceptions".

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Please explain your choice:

NYSRC Comments: Any of the above three choices would weaken the present NERC standards. Therefore, as answered in (a) above, there should be no changes to Categories B, C, and D as they now exist in the present Planning Standards.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

NYSRC Response: Updated transmission plans should be reported along with compliance assessments as required.

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

NYSRC Comment: Again, the existing standards should not be weakened.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

NYSRC Comments: It is the NYSRC’s position that (1) NERC specifies minimum standards, (2) a Region may establish more stringent standards for its members separate from the NERC standards, and (3) it is unnecessary to include these more stringent standards within the framework of the NERC standards.

6. Do you have any other comments on the SAR?

NYSRC Comments: As stated above, it is the NYSRC’s position that there is no need to develop this SAR. However, despite this position, if the DT has sufficient support to go forward with a new standard, we have the following additional comments:

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

1. SAR-4: Third paragraph – insert “and plans” after “Assessments”. The last sentence is not needed. A Region or other entity may have more stringent requirements than NERC – therefore, such a statement is not needed.
2. Fifth paragraph – define “applicable portion”. List the specific standards and measurements that are intended to be used as the starting point.
3. Bottom of page - We agree that a transmission planning standard should not include Resource Planning requirements. However, the NYSRC strongly believes that NERC should develop a separate Resource Planning Standard.
4. SAR-5: first bullet – replace “provide” with “consider”.
5. Third bullet – Is the probabilistic method referred to here considered a replacement for the NERC Criteria or a supplement to NERC Criteria? NERC should not allow such a method as a substitute for NERC criteria. I am not aware that NERC has completed an analysis to evaluate and compare the level of reliability of probabilistic criteria with NERC criteria. Such an evaluation would be needed.
6. Fifth bullet – This should be removed. This would be a weakening of the criteria.
7. The relationship with the Version 0 standards should be recognized in the SAR, including the mechanism of how this “Version 1” standard would replace Version 0.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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- The scope of the SAR should be reduced to eliminate.....

In January 2004, the Standards Authorization Committee (SAC) appointed a Drafting Team (DT) to address industry answers and comments to the questions posed. The DT was also charged with refining the SAR and drafting a detailed description of the proposed standard in preparation for the 2nd posting of the SAR.

Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

The revised SAR (Version 2) is posted on the NERC web site given in the blue box at the top of this form. Also posted is a Consideration of Comments document, in which the DT has responded to the original industry comments from 2002. You can find Version 1 of the SAR and industry comments on this version at the same web location.

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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

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
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- 8 - Small Electricity Users**
- 9 - Federal, State, and Provincial
Regulatory or other Govt. Entities

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: NPCC, CP9 Reliability Standards Working Group		Group Chair: Guy Zito Chair Phone:212-840-1047 Chair Email: gzito@npcc.org
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Roger Champagne</i>	<i>TransEnergie (Quebec)</i>	<i>1</i>
<i>Ralph Rufrano</i>	<i>New York Power Authority</i>	<i>1</i>
<i>David Kiguel</i>	<i>Hydro One Networks (Ontario)</i>	<i>1</i>
<i>David Little</i>	<i>Nova Scotia Power</i>	<i>1</i>
<i>Kathleen Goodman</i>	<i>ISO New England</i>	<i>2</i>
<i>Dan Stosick</i>	<i>ISO New England</i>	<i>2</i>
<i>Peter Lebro</i>	<i>US National Grid</i>	<i>1</i>
<i>James Pratico</i>	<i>New York ISO</i>	<i>2</i>
<i>Larry Eng</i>	<i>Niagara Mohawk</i>	<i>1</i>
<i>Khaqan Khan</i>	<i>The Independent Electricity Market Operator IMO, Ontario</i>	<i>2</i>
<i>Alan Adamson</i>	<i>New York State Reliability Council</i>	<i>2</i>
<i>Guy Zito, John Mosier, Brian Hogue (Staff)</i>	<i>Northeast Power Coordinating Council</i>	<i>2</i>

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a “check” mark in the appropriate boxes by double-clicking the gray areas.

General Comment: It is the opinion of the Northeast Power Coordinating Council’s CP9 working group participating members that the existing NERC criteria should not be weakened, including the NERC Planning Standards listed in the SAR as the starting point to be used in drafting a new standard. The comments below support our position that the existing Planning Standards should not be weakened.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

NPCC believes that the relationship between the concept of the Version 0 Standards and all the developing Version 1 Standards needs to be consistent. The reliability attributes of the Version 0 standards must be “carried through and into” the Version 1 Standards and there needs to be coordination to ensure this occurs.

NPCC suggests leaving the categories as listed. Choice of any of the above would result in a weakened standard. We suggest no changes be made to Categories B, C, and D as they presently exist in the Planning Standards

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

No

Comments:

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

In the northeast, the NPCC Annual Transmission Reviews address this and in addition NPCC keeps a “Major Projects List” to “track” BPS additions and modifications and includes transmission, generation and other major equipment identified as a BPS element.

NPCC suggests that the resultant NERC standard not be overly prescriptive in requirements for reporting progress/status on the standard and flexibility be afforded to allow various documentation and processes already in place to achieve compliance, and also we suggest it be done annually.

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments: We reiterate that the existing standards should not be weakened and request that the SAR be clarified to remove ambiguity regarding what is meant by “considering” a planned outage. Planned outages at present are considered however this is deemed an Operational Planning issue and is conducted so as to set Operational Limits for those conditions on a pre-contingency basis to allow for N-1 conditions.

This particular SAR will ultimately result in a “planning” Reliability Standard. The wording, as it has been phrased, infers that the system must be planned, designed and built to N-2 standards (i.e. a line out for maintenance on top of a circuit element outage). Treatment of planned outages should be considered to some extent and NPCC suggests the drafting team receive direction from the SAC regarding planned outages. NPCC suggests that planned outages should be considered only in categories in A through C.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

NPCC also would like to submit its definition of Bulk Power System, as follows, and would like it to be considered as a “building block” for the NERC BES definition.

- **Bulk Power System-BPS-(or BES in NERC documents) — The interconnected electrical systems within northeastern North America comprising generation and transmission facilities on which faults or disturbances can have a significant adverse impact outside of the local area. In this context, local areas are determined by the Council members.**

- NPCC suggests that any discussion and resultant determination of a definition for Cascading Outage be fully coordinated with the STDs 200 and 600. NPCC had submitted a suggested definition for the last posting of STD 200;

Cascading Outage- “The uncontrolled successive loss of Bulk Electric System elements that propagate beyond a defined area (Balancing Area’s) boundaries.”

Also NPCC recognizes that Resource Planning is not covered in the proposed Standard because it is considered as being handled by market mechanisms that are/will be in place or perhaps addressed in a separate standard. Therefore, NPCC assumes that the generation and load information required to perform the planning studies are provided as described in section II.A of the existing Planning Standards. If not, sections II.B, II.E and III of the existing Planning Standards should also be used as the starting point in drafting of the reliability requirements.

- NPCC is not in favor of removing references to “Applicable Ratings” as is suggested on SAR-5 fifth bullet. Despite the fact that the performance requirement would be “No Cascading Outages are Allowed”, the “Applicable Ratings” should always be respected.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Note – This form is to comment on **Version 2** of the “Assess Transmission Future Needs and Develop Transmission Plans” SAR.

The latest version of this SAR (TRNS_NDS_&_PLNS_01_02) is posted on the Standards web site at: <http://www.nerc.com/~filez/standards/Assess-Transmission-Future-Needs.html>

E-mail this form between May 5 and June 5, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

Background:

Version 1 of the “Assess Transmission Future Needs and Develop Transmission Plans” SAR was posted for a 30-day public comment period between April 2 and May 3, 2002. This first version was an abbreviated SAR, which included an “Industry Need” statement and a brief description of the proposed standard, but did not include a detailed description. The purpose of this first posting was to collect feedback from the industry on the following questions:

- Is there a reliability-related need for an Organization Standard to be developed on this topic?

If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

Commenter Information (For Individual Commenters)	
Name:	Ken Githens
Organization:	Allegheny Energy Supply
Industry Segment #:	5
Telephone:	412-858-1635
E-mail:	kgithen@alleghenyenergy.com

<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:	Group Chair:	Chair Phone:
	Chair Email:	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments: However, major facility additions, delayed additions, or deletions that effect the reliability of the system could be included as part of the regional form 715 base case yearly filings and listed as changes from last year's cases. This would allow older cases to easily be updated and used.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

- Yes (consider planned outages in all Categories A through D).
 Yes (consider planned outages in some Categories only).

Please specify which Categories:

- No
 Comments: I would modify C-3 since it has the same effect as or similar to a C-3 event to include (line out followed by a category B event).

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

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**
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- 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: TVA Transmission Planning Department	Group Chair:	Chair Phone:
	Chair Email:	

List of Group Participants that Support These Comments:

Name	Company	Industry Segment #
David Till	TVA	9
David Marler	TVA	9
Brenda Eberhart	TVA	9
Darrin Church	TVA	9
Byron Stewart	TVA	9
William Tiller	TVA	9

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

This approach allows documentation of an assessment of low consequence to substitute for the expenditure of an unwarranted solution, but maintains the integrity of the event probability assessment. Since others may have different ideas of what is low probability, this approach would be best with sufficient justification of low probability.

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

No

Comments:

This reporting would constitute a logistical burden counterproductive to the total planning effort.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments: Everyone in the group agreed that planned outages should be considered, but the group didn't agree on which categories to apply. About half believed they should be applied to all categories while the other half believed only A and B categories should have planned outages studied for the one year and beyond horizon.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Commenter Information (For Individual Commenters)

Name: Kathleen Goodman
Organization: ISO New England Inc.
Industry Segment #: 2
Telephone: (413) 535-4111
E-mail: kgoodman@iso-ne.com

Key to Industry Segment #'s:

- 1 – Trans. Owners**
- 2 – RTO's, ISO's, RRC's**
- 3 – LSE's**
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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 #

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

General Comment: It is the opinion of the Northeast Power Coordinating Council's CP9 working group participating members that the existing NERC criteria should not be weakened, including the NERC Planning Standards listed in the SAR as the starting point to be used in drafting a new standard. The comments below support our position that the existing Planning Standards should not be weakened.

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Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

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Please explain your choice:

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Please explain your choice

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Please explain your choice:

Comments:

ISO-NE believes that the relationship between the concept of the Version 0 Standards and all the developing Version 1 Standards needs to be consistent. The reliability attributes of the Version 0 Standards must be “carried through and into” the Version 1 Standards; there needs to be coordination to ensure this occurs.

ISO-NE suggests leaving the categories as listed. Choice of any of the above would result in a weakened standard. We suggest no changes be made to Categories B, C, and D as they presently exist in the Planning Standards.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

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3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

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ISO-NE suggests that the resultant NERC Standard not be overly prescriptive in requirements for reporting progress/status on the standard and flexibility be afforded to allow various documentation and processes already in place to achieve compliance; we also suggest it be done annually.

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5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

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- **Bulk Power System-BPS-(or BES in NERC documents) — The interconnected electrical systems within {northeastern} North America comprising generation and transmission facilities on which faults or disturbances can have a significant adverse impact outside of the local area. In this context, local areas are determined by the Council members.**
- ISO-NE strongly suggests that any discussion and resultant determination of a definition for Cascading Outage be fully coordinated with the STDs 200 and 600. ISO-NE and NPCC had submitted a suggested definition for the last posting of STD 200;
Cascading Outage - “The uncontrolled successive loss of Bulk Electric System elements that propagate beyond a defined area (Balancing Area’s) boundaries.”

Recognizing that Resource Planning is not covered in the proposed Standard because it is considered as being handled by market mechanisms that are/will be in place or perhaps addressed in a separate standard, may we assume that the generation and load information required to perform the planning studies are provided as described in Section II.A of the existing Planning Standards?. If not, Sections II.B, II.E and III of the existing Planning Standards should also be used as the starting point in drafting of the reliability requirements.

- ISO-NE does not support removing references to “Applicable Ratings” as is suggested on SAR-5 fifth bullet. Despite the fact that the performance requirement would be “No Cascading Outages are Allowed,” the “Applicable Ratings” should always be respected.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Note – This form is to comment on **Version 2** of the “Assess Transmission Future Needs and Develop Transmission Plans” SAR.

The latest version of this SAR (TRNS_NDS_&_PLNS_01_02) is posted on the Standards web site at: <http://www.nerc.com/~filez/standards/Assess-Transmission-Future-Needs.html>

E-mail this form between May 5 and June 5, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

Background:

Version 1 of the “Assess Transmission Future Needs and Develop Transmission Plans” SAR was posted for a 30-day public comment period between April 2 and May 3, 2002. This first version was an abbreviated SAR, which included an “Industry Need” statement and a brief description of the proposed standard, but did not include a detailed description. The purpose of this first posting was to collect feedback from the industry on the following questions:

- Is there a reliability-related need for an Organization Standard to be developed on this topic?

If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

In January 2004, the Standards Authorization Committee (SAC) appointed a Drafting Team (DT) to address industry answers and comments to the questions posed. The DT was also charged with refining the SAR and drafting a detailed description of the proposed standard in preparation for the 2nd posting of the SAR.

Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

Commenter Information (For Individual Commenters)

Name: Khaqan Khan

Organization: Independent Electricity Market Operator

Industry Segment #: 2

Telephone: 905-855-6288

E-mail: khaqan.khan@theIMO.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 #

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments: Any inclusion of above mentioned options [re: under item (c)] may result in deteriorated standard. Therefore, for purposes of continued goals of reliability, it is our suggestion that no changes should be made in categories B, C and D (as they presently exist in the Planning Standards).

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Comments:

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

Comments: In the Northeast, the NPCC Annual Transmission Reviews address this and in addition NPCC keeps a “Major Projects List” to “track” BPS additions and modifications and includes transmission, generation and other major equipment identified as a BPS element.

We also suggest that the resultant NERC standard not be overly prescriptive in requirements for reporting progress/status on the standard and flexibility be afforded to allow various documentation and processes already in place to achieve compliance, and moreover, we suggest that this be done annually.

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments: We reiterate that the existing standards should not be weakened and request that the SAR be clarified to remove ambiguity regarding what is meant by “considering” a planned outage. Planned outages are considered however this is deemed an Operational Planning issue and is conducted so as to set Operational Limits for those conditions on a pre-contingency basis to allow for N-1 conditions.

This particular SAR will ultimately result in a planning standard. The wording, as it has been phrased, infers that the system must be planned, designed and built to N-2 standards (i.e. a line out for maintenance on top of a circuit element outage). Treatment of planned outages should be considered to some extent and NPCC suggests the drafting team receive direction from the SAC regarding planned outages. We also concur with the NPCC/CP9 suggestion that planned outages should be considered only in categories in A through C.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

**Comment Form for Version 2 of “Assess Transmission Future Needs and Develop
Transmission Plans” SAR (2nd Posting)**

6. Do you have any other comments on the SAR?

Comments:

(1) We also resubmit our earlier suggested definition as given in the comments for the last(3rd)
posted version of STD 200;

Cascading Outage- “The uncontrolled successive loss of Bulk Electric System elements that
propagate beyond a defined area (Balancing Area’s) boundaries”

(2) The IMO also supports the comments submitted by ISO/RTO Council- Standards Review
Committee as well as the CP-9/NPCC Group

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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E-mail this form between May 5 and June 5, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

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If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

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Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

The revised SAR (Version 2) is posted on the NERC web site given in the blue box at the top of this form. Also posted is a Consideration of Comments document, in which the DT has responded to the original industry comments from 2002. You can find Version 1 of the SAR and industry comments on this version at the same web location.

Please review Version 2 of the SAR and complete this Comment Form to let the SAR DT know if you agree or disagree with the SAR DT’s assessment that this SAR is ready to be developed into a Standard.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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**
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Regulatory or other Govt. Entities

Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: SPP's Transmission Working Group	Group Chair: Ronnie Frizzell Chair Phone: (501) 570-2433 Chair Email: rfrizzell@aecc.com	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
Ronnie Frizzell*	Arkansas Electric Cooperative Corp.	4
Noman Williams*	Sunflower Electric Power Cooperative	1
Don Taylor*	Westar Energy	1
Jim Useldinger*	Kansas City Power & Light	1
John Fulton*	Southwestern Public Service	1
Matt McGee*	American Electric Power	1
Sam McGarrah*	Empire District Electric	1
Mitch Williams*	Western Farmers Electric Cooperative	1
John Chiles*	ETEC	4
Mak Nagle	Entergy	1
Jim Kistner	Associated Electric Cooperative, Inc.	1
Alex Lau*	Southwest Power Pool	2
Phil Crissup*	Oklahoma Gas & Electric	1
Howard Conus*	City Utilities of Springfield, Mo	1
Alan Myers*	Aquila Networks	1
David Sargent*	Southwestern Power Administration	1

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice: SPP would like to see a definition of "good cause exceptions" at a minimum.

Comments: SPP encourages the development of probabilistic techniques to assess reliability but caution needs to be exercised prior to implementation to ensure support from all stakeholders.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments: SPP supports this reporting requirement, but notes that this burden should not be imposed more frequently than annually.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan? Although SPP is implementing a 2 year planning cycle, project updates are collected on an annual basis. To ensure compliance with reliability criteria, mitigation reviews are also provided on an annual basis consistent with the annual model building process. Updates due to new “out of cycle” projects or significant scope/timing changes associated with major projects in the approved regional expansion plan and its assessments are evaluated on an as-needed basis. Coordinated planning and model building using consistent definitions with neighboring regions/entities will be critical. Efforts should be undertaken to put data collection, modeling building and transmission assessment processes for neighboring regions/entities on the same cycles.

4. Existing Planning Standard 1.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories: C.3. needs to be modified to address N-1-1 concerns. Category B (B1, B2, B3 or B4, including loss of an element without a fault) or in the alternative create Category B5 to Loss of an element without a fault. The later is preferred.

No

Comments: Planned outages are typically not evaluated more than one year in advance and are not scheduled during peak load conditions. However, the existing Planning Standard 1.A is problematic in that it requires the system to be designed to accommodate planned outages during peak load conditions.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments: SPP is aware of differences between SPP and the neighboring regions of ERCOT, MAPP and WECC.

6. Do you have any other comments on the SAR?

Comments: Implementation of this SAR needs to be coordinated with the activities of the Version 0 Standards Drafting Team.

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Commenter Information (For Individual Commenters)

Name: Peter Burke [on behalf of ATC's David Smith]

Organization: American Transmission Company

Industry Segment #: 1

Telephone: 262-506-6863

E-mail: PBurke@atcllc.com

Key to Industry Segment #'s:

- 1 – Trans. Owners**
- 2 – RTO's, ISO's, RRC's**
- 3 – LSE's**
- 4 – TDU's**
- 5 - Generators**
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Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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 #

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a “check’ mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.
 - (a). Do you believe that the events in Categories B, C & D are classified correctly?
 - Yes
 - No
 - Comments:

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

The outage listed in the existing categories are reasonable but, because we don't know all the specific details about a certain part of the system, there should be some mechanism to consider exceptions.

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

While an entity should be implementing plans to maintain or improve the reliability required by the standards, having to report on the implementation could become quite complicated. Plans are often changing to meet changing system conditions, sometimes so much so that what seemed reasonable to do last year is replaced by entirely new plans.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments: *Planning the system should consider the need for planned outages but should not require the capability to plan outages at peak system loads.*

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

P SAR-3, Market Interface principles, question 5 – Depending on the level of public exposure of the load flow and stability models, generation cost data and stability parameter data may be deemed by some entities as confidential market information.

P SAR-4, II.A System Data – Needs to consider the difficulties, particularly for stand-alone transmission companies, in obtaining resource information so models can balance load and resources.

P SAR-5, third bullet – This may also go back to question 1 in this document but the statement, “There should be NERC approval of acceptable levels of risk” needs to be better defined. For example does this mean that a utility can’t decide to increase the operating temperature of a line conductor without NERC approval?

The SAR drafting team seems to have its arms around the issues and seems ready to proceed to Standard development.

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If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

Commenter Information (For Individual Commenters)

Name: Bill Bojorquez

Organization: ERCOT

Industry Segment #:2

Telephone: (512) 248-3036

E-mail: bbojorquez@ercot.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
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Regulatory or other Govt. Entities

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

- (a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

- (b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

- (c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

We suggest no changes be made to Categories B, C, and D as they presently exist in the Planning Standards. Choice of any of the above would result in a weakened standard and degraded reliability throughout NERC member systems.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Yes

No

Comments:

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

Periodic Transmission Reviews to address changes in plans and tracking lists of BPS additions and modifications (that would include transmission, generation and other major equipment identified as a BPS element).

The resultant NERC standard should not be overly prescriptive in requirements for reporting progress/status on the standard. Flexibility should allow for the various documentation and processes already in place to achieve compliance.

4. Existing Planning Standard I.A requires: “The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments: *The existing standards should not be weakened*

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

Determination of a definition for Cascading Outage should be coordinated with the STDs 200 and 600.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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The latest version of this SAR (TRNS_NDS_&_PLNS_01_02) is posted on the Standards web site at: <http://www.nerc.com/~filez/standards/Assess-Transmission-Future-Needs.html>

E-mail this form between May 5 and June 5, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

Background:

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- Is there a reliability-related need for an Organization Standard to be developed on this topic?

If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

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Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

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Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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

Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: <i>Southern Company Services, Inc</i>	Group Chair: <i>Marc Butts</i> Chair Phone: <i>205-257-4839</i> Chair Email: <i>mmbutts@southernco.com</i>	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Rod Hardiman</i>	<i>Southern Company Services</i>	<i>1</i>
<i>Jonathan Glidewell</i>	<i>Southern Company Services</i>	<i>1</i>
<i>Bobby Jones</i>	<i>Southern Company Services</i>	<i>1</i>
<i>Bill Pope</i>	<i>Gulf Power Company</i>	<i>3</i>
<i>Marc Butts</i>	<i>Southern Company Services</i>	<i>1</i>

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.
 - (a). Do you believe that the events in Categories B, C & D are classified correctly?
 - Yes
 - No

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Comments: **Category C events are more likely to occur than Category D events and should require higher performance expectations.**

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A.?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments: **Since the events are currently categorized correctly, 1.b and 1.c are not applicable. Low consequence Category C events should be considered compliant. However, as we interpret Table I, a Category C event that results in low consequences (e.g. no cascading) is already considered compliant since entities can drop load or curtail firm transfers to return to applicable thermal or voltage ratings.**

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments: **Too burdensome for the perceived benefits.**

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories: **Categories A and B only.**

No

Comments: **The requirement to consider planned outages in addition to each Category A and B contingency should remain part of this planning standard. We agree with the SAR drafting team that exhaustive testing for every contingency described and every load level in each category is not practical.**

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments: **Not aware of any at this time. However, Regional Differences could develop and each request for a Regional Difference should be considered individually.**

6. Do you have any other comments on the SAR?

Comments:

In general, the NERC Standards need to have a common definition across the board for any definition used in a Standard. For example, the definition for "Cascading Outages" needs to be coordinated with the Standards Drafting Team (SDT) for the "Determine Facility Ratings, Operating Limits, and Transfer Capability" standard.

Southern agrees that the Standard should provide a clearer definition of “cascading outages.” We suggest that the following be considered:

Cascading — the uncontrolled successive loss of system elements triggered by contingencies which results in widespread electric service interruption 1) that drops 1000 MW of load or more or 2) that crosses control area boundaries.

In addition Southern recommends that the Standard provide a clearer definition of what is meant by “system stable.” We suggest that the following be considered:

System stable — For Category A and B simulations, system stable means that no generating units pull out of synchronism. For Category C events, system stable means that if units pull out of synchronism, 1) the resulting impedance swings are not out into the transmission system and 2) the total amount of generation lost because of out-of-step tripping does not exceed the control area operating reserve level.

The standard should include requirements for LSEs to provide forecast resource data as required in the current II.D standards, to facilitate development of power flow models. Accordingly, this standard should also apply to LSEs.

On page 4 of the SAR, bottom half of the page; there is a paragraph that discusses how the Transmission Planner should document generation dispatch. Comment: In relation to the methodology being used for incorporating planned generation assets in the model and how generation is dispatched, the type of each generating unit, the primary fuel type for each generating unit, and a dispatch order of the generating units should be required. In addition, a general description of the dispatch methodology used for the system should also be required. However, no cost information should be required.

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Name:		
Organization:		
Industry Segment #:		
Telephone:		
E-mail:		
STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: Western Electricity Coordinating Council		Group Chair: Ben Morris Chair Phone: 415-973-7687 Chair Email: bem8@pge.com
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
<i>Baj Agrawal</i>	<i>Arizona Public Service</i>	<i>1</i>
<i>Phil Park</i>	<i>British Columbia Transmission Corporation</i>	<i>2</i>
<i>Jeff Miller</i>	<i>California Independent System Operator</i>	<i>2</i>
<i>Ron Schellberg</i>	<i>Idaho Power Company</i>	<i>1</i>
<i>Rahn Sorensen</i>	<i>Nevada Power Company</i>	<i>1</i>
<i>Ben Morris</i>	<i>Pacific Gas and Electric Company</i>	<i>1</i>
<i>Rick Padilla</i>	<i>Pacific Gas and Electric Company</i>	<i>5</i>
<i>Chifong Thomas</i>	<i>Pacific Gas & Electric Company.</i>	<i>1</i>
<i>Dilip Mahendra</i>	<i>Sacramento Municipal Utility District</i>	<i>1</i>
<i>Brian K. Keel</i>	<i>Salt River Project</i>	<i>1</i>
<i>Dana Cabbell</i>	<i>Southern California Edison</i>	<i>1</i>
<i>Mohan Kondragunta</i>	<i>Southern California Edison</i>	<i>1</i>
<i>John D. Martinsen</i>	<i>Snohomish County PUD</i>	<i>4</i>

Please Review Version 2 of the SAR and Answer the Following Questions

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1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

The Categories should be based on the probability of occurrence of the initiating events. A review of Table I (Standard IA) shows that the contingencies in the same Categories seem to have very different probabilities of occurrence. As such, a new category should be defined between Category C and Category D. The more probable Category D events and the less probable Category C events should be placed in this new category and not be allowed to cascade.

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

WECC supports moving C.2 and C.9 to a new Category between the current C and D Categories. WECC Planning Standards do not support reclassification of C.3.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

A no-cascading performance requirement is needed for this new category.

There are Category C events, which have a very low probability of occurrence. Such events, even if they occurred should not lead to cascading, even though local facility ratings or voltage limits may be exceeded. Very often, the solution for such low probability contingencies would be to install a relay system to interrupt load or generation. The probability of relay misoperation to prevent potential problems resulting from the contingency may be higher than the probability of the contingency itself. Thus the impact on the users of the grid may not be significantly reduced. Nevertheless, the system reliability would be better served if we can add a category for such low probability contingencies (which would not result in cascading), and the risk of which is acceptable.

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

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Please explain your choice:

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

Since many of the transmission plans are dependent upon factors such as, resource plans, local load projections, new technology, permitting, to name a few, it would not be meaningful to report on the status of implementation of a transmission plan. In any case, if a potential transmission problem is not solved, it will show up again in subsequent years, so there will be pressure to solve it. This continuous “certification” would ensure that any potential transmission problem, once identified, would not be left unsolved even without NERC requiring status reports on implementation.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories: A, B, and C (except C-3)

No

Comments:

All contingencies where a single point of failure could cause facilities to be lost should be tested for compliance with the standards even under planned maintenance conditions. However, it should never be necessary to exhaustively test every possible combination of outages. Those contingencies that are clearly not critical outages should not have to be simulated.

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5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

The existing NERC Standard C-9 (and C-2 for bus sectionalizing breakers) as it applies to WECC should be modified so that thermal limit and voltage limit violations are allowed for bus sectionalizing breaker failures. This is because bus sectionalizing breaker failure is a relatively low probability event. Use of a bus sectionalizing breaker should be encouraged because it reduces the impact of a disturbance to a portion of the load only. Without the proposed modification there is no incentive to use the sectionalizing breaker. However, under no conditions should system instability or cascading outages be allowed for bus sectionalizing breaker failures.

6. Do you have any other comments on the SAR?

– Comments:

1. On Page SAR-5 of the draft SAR, the third bullet states: "The Standard should allow for the development and use of probabilistic planning methods. The minimum requirements of probabilistic methods are the contingencies as described in Table 1 of existing Planning Standard I.A. There should be NERC approval of acceptable levels of risk."

The Standard should also allow for the use of Probabilistic Criteria. In WECC, Probabilistic Planning refers to the application of fixed planning standards to a given problem to determine the probable or expected load not served. Probabilistic Criteria is used to refer to adjusting the performance category based on the probability of the event for a specific facility. The performance category can move up or down depending on actual or planned performance. Therefore, Table 1 would be the starting point for making probabilistic criteria adjustments. Probabilistic adjusted criteria would be the basis for Probabilistic Planning.

For example, the NERC Planning Standards should follow what WECC is doing with regard to listing disturbances as a guide, but say that other disturbances with the same probability should be included. List the probability ranges (outages per year), Category B: ≥ 0.33 , Category C: 0.33 to 0.033; Category D1 (no cascading): 0.033 to .0033, Category D2: $< .0033$.

The standard should allow for changes in the required performance for given disturbances if a probability in another range has been established for a given disturbance.

WECC recommends that the approval of acceptable levels of risk be at the regional level.

NERC should require that the regional councils specify voltage dip and minimum frequency standards. NERC should not set the standards.

2. Page SAR-4 states that the Standard would not include requirements for Resource Planning. In order to develop any meaningful standard the resource part of the power system should be addressed by including standards for the modeling of existing resources, planned retirement of resources, and planned resources in the next 5 to 10 years time frame. This information will be necessary in order to assess whether future system can or can not meet the reliability standards.

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Commenter Information (For Individual Commenters)	
Name:	Mark J. Kuras
Organization:	MAAC
Industry Segment #:	2
Telephone:	610-666-8924
E-mail:	kuras@pjm.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
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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 #

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

X Yes

No

X Comments: **I believe that an in depth investigation of the probability of each possible contingency occurring be investigated by NERC to determine each contingency's relative probability and those results used to re-rank the contingency list, if necessary.**

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

X Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

This is the best choice of the ones mentioned here but see my answer to 1.(b) above for another approach. This approach allows for some levels of performance between C and D such as restricting the performance to "no cascading or system instability" for some C and maybe even D events.

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

X Yes

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No

Comments: **It's one thing to develop plans and another to follow through on them. PJM can offer suggestions on how this tracking could be accomplished.**

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

A plan is a plan at that point in time. Plans change. Periodic checks of implementation of plans can uncover these plan changes that should be allowed.

4. Existing Planning Standard I.A requires: *"The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed"*.

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

X Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments: **Contingencies don't only happen when all lines are in service. Outages should be modeled during all types of contingency evaluation. This may be a fairly daunting task but this evaluation will help the system operators be prepared for the reality of operating the system in a less than ideal state. Possible ways to select lines to outage may be to look at lines with high unscheduled outage rates, lines close to sources of contamination, lines through areas that have historically had vegetation contact problems, and especially lines that when outaged can cause operating problems.**

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

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Commenter Information (For Individual Commenters)
Name: Marv Landauer
Organization: BPA
Industry Segment #: 1
Telephone: 503-230-4105
E-mail: mjlandauer@bpa.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
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STD Commenter Information (For Groups Submitting Group Comments)

Name of Group: Internal BPA review group	Group Chair:	Chair Phone:
	Chair Email:	

List of Group Participants that Support These Comments:

Name	Company	Industry Segment #
Paul Arnold	BPA	1
Rebecca Berdahl	BPA	1
Mark Bond	BPA	1
Gordon Comegys	BPA	1
Angela DeClerk	BPA	1
Don Gold	BPA	1
Kyle Kohne	BPA	1
Mike Kreipe	BPA	1
Chuck Matthews	BPA	1
Bill Mittelstadt	BPA	1
James Murphy	BPA	1
Melvin Rodrigues	BPA	1
Mike Viles	BPA	1
Paul Ferron	BPA	1

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

Outage categories C1, C2 and C9 do not appear to be classified correctly as verified by the attached outage probability data. There is consistency between the categories except that C1, C2 and C9 outages have a much lower probability of occurrence than the other Category C outages.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

The C2 (with respect to a bus section breaker failure) and the C9 outages should be in this new category. Although these outages have extremely low probability, they should not cause cascading. This is especially true of C2, which is a single contingency failure of a bus section breaker. Therefore we favor adding a new category between Level C and D (or moving these two outages to Level D) with performance requirements of no cascading and system stable but with no requirement to be within applicable ratings.

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

Although this is not our preferred choice, allowing the use of "good cause exceptions" (which

Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

we assume is the same as probabilistic methods which could move contingencies to a lower performance level although this is inconsistent with other statements in the SAR) to verify exceptions to the present categories would also be acceptable. For the C2 example, showing that these events statistically occur every 1200-1300 years and would not cause cascading problems on the system should provide enough evidence that a lower performance level is appropriate.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

A plan without a requirement to update progress on implementing the plan has little value. This is essential for an effective standard. This should not be an extensive reporting procedure and could easily be met during the subsequent compliance report.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

Once a transmission plan is identified in a compliance report, progress on that project should be reported in subsequent compliance reports. If system conditions change, this should be described along with the consequences to the proposed plans. If project need goes away, the project can be cancelled. However, if the project need still exists and the responsible entity has not implemented a plan to correct the deficiency, it should be listed as non-compliant. Legitimate problems with regulatory and siting issues should be acceptable reasons for project delay.

4. Existing Planning Standard I.A requires: *"The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed"*.

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments:

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

This requirement should be addressed in operational planning studies (less than one year). This standard is not appropriate for Transmission Planning studies except possibly as a tool to measure or compare the robustness or availability of transmission plans. This is not an item that should require any compliance action.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

x Comments:

Although WECC has several requirements in its standards that are more stringent than the existing NERC criteria, it also has two standards that are less stringent (C2 and C9). Depending on the resolution of question #1 above, C2 and C9 may be a regional difference.

WECC has a formal Probabilistic Planning process that allows adjustment of performance levels of contingencies in either direction. As this SAR states that the existing NERC Table I is the minimum criteria for probabilistic methods, this will be a regional difference for WECC. This is discussed more in Item #6 below.

6. Do you have any other comments on the SAR?

x Comments:

Probabilistic Planning Methods: The handling of probabilistic criteria in the SAR seems quite convoluted, i.e. it can only be used to increase performance levels AND has to be approved by NERC. This is not the way probabilistic planning should work.

WECC presently has a process (Seven Step Reliability Performance Evaluation) to allow changes in performance requirements (both up and down) for specific outages based on rigorous analysis and monitoring actual performance. It is mostly applicable to requirements beyond the NERC criteria (such as outages of adjacent circuits on separate towers). Use of these methods should be allowed with approval of affected regions. This process should allow for movement below Table 1, i.e. moving Category C outage to Category D. One way to resolve this would be to replace the word “minimum” in the SAR to “starting”.

Applicable Ratings: There is a need to tighten up the methodology for Applicable Ratings to ensure that compliance with this standard is measurable. We assume that this will take place in the Determine Facility Ratings Standard although we are concerned about how this is progressing.

Transition to Operating Standards: The Planning Standards include multi-layered requirements for different types of outages, i.e., Level B single contingencies, Level C and D multiple contingencies. Compliance with these requirements is to be defined and monitored via the new Reliability Standards. However, once the system moves into the Operational timeframe (one year or less), Policy 2 presently requires meeting N-1 contingencies only with no requirements for Levels C and D. The transition between planning and operations needs further exploration.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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E-mail this form between May 5 and June 5, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

Background:

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- Is there a reliability-related need for an Organization Standard to be developed on this topic?

If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

In January 2004, the Standards Authorization Committee (SAC) appointed a Drafting Team (DT) to address industry answers and comments to the questions posed. The DT was also charged with refining the SAR and drafting a detailed description of the proposed standard in preparation for the 2nd posting of the SAR.

Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

The revised SAR (Version 2) is posted on the NERC web site given in the blue box at the top of this form. Also posted is a Consideration of Comments document, in which the DT has responded to the original industry comments from 2002. You can find Version 1 of the SAR and industry comments on this version at the same web location.

Please review Version 2 of the SAR and complete this Comment Form to let the SAR DT know if you agree or disagree with the SAR DT’s assessment that this SAR is ready to be developed into a Standard.

Commenter Information (For Individual Commenters)

Name: [Neil Brausen](#), [Jeff Billinton](#), [Bob Chow](#)

Organization: [Alberta Electric System Operator \(AESO\)](#)

Industry Segment #: [2](#)

Telephone: [403-539-2531](#)

E-mail: bob.chow@aesoc.ca

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
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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

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 #

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.
 - (a). Do you believe that the events in Categories B, C & D are classified correctly?
 - Yes
 - No
 - Comments:

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Generally the B and C events are classified correctly. However, there is a need to reconsider the grouping of the D events on some consistent basis (e.g. such as using outage frequency as a determinant). There should also be some means to include double-circuit lines and buses as B events if their probability of outage is comparable to that of other category B contingencies.

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A.?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

There are D contingencies that are probable although rare (e.g. loss of multiple circuits on separate tower lines on a common right-of-way). These contingencies may result in loss of load or generation but should not allow cascading. Other D contingencies such as loss of all lines on a multi-line corridor or the loss of a complete station would be difficult to contain. These events should be treated differently than the former.

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

It is not clear to whom the reporting would go to and how it would be used. Normally, reporting would be required for the regulatory process in the affected jurisdiction. The scope of that reporting would not be limited to reliability only but also other aspects of the transmission plan (e.g. customer connections, efficiency improvements, etc).

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

- Yes (consider planned outages in all Categories A through D).
 Yes (consider planned outages in some Categories only).

Please specify which Categories: A to C

- No
 Comments:

A need to clarify what constitutes the “normal” condition when a facility (transmission or generation) is on a long duration planned outage (is it a day, a week, etc). The A to C contingency categories can then be applied to the “normal” condition as defined. The testing requirement could perhaps be stated in a way that leaves it to the judgement of the planning authority as to the critical combinations of outages that need to be tested.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

The basis of probabilistic planning, in our view, is to make planning decisions based on the metrics, such frequency, duration and impact, derived from probabilistic assessments. This is usually difficult to do in planning the bulk portion of the transmission system, since outage events are rare but their impact is significant (like multiplying infinity and zero). The categorization of contingencies in Table 1 using outage frequency as a determinant is a step in applying probabilistic techniques in this Standard but it is not probabilistic planning in its true sense. The

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

SAR development team should clarify what it intends with regard to “the use of probabilistic planning methods”.

We believe that the assumptions made for the amount, type and location of future supply are important considerations in assessing the future needs of transmission systems. The SAR drafting team should consider this forecast requirement in developing this Standard. Similarly, there is difficulty in separating planning for reliability and planning for overall system efficiency and economy, and the Standard must be clear on this differentiation.

The SAR drafting team should clarify through rules, tests, definitions, etc. the portion of an entity’s transmission system that shall be planned under the full NERC Standard and what portion may be exempted.

There should be a clear distinction between the appropriate use and application of RAS (or SPS) and “safety nets”.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

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E-mail this form between May 5 and June 5, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

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If there is such a need, how should the scope of the SAR be changed?

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- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

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Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

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Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Commenter Information (For Individual Commenters)

Name:

Organization:

Industry Segment #:

Telephone:

E-mail:

Key to Industry Segment #'s:

- 1 – Trans. Owners**
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Regulatory or other Govt. Entities

Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: ISO/RTO Council Standards Review Committee		Group Chair: Karl Tammar Chair Phone: 518-356-6205 Chair Email: ktammar@nyiso.com
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
Dale McMaster	AESO	2
Ed Riley	CAISO	2
Sam Jones	ERCOT	2
Don Tench	IMO	2
Peter Brandien	ISO-NE	2
Bill Phillips	MISO	2
Karl Tammar	NYISO	2
Bruce Balmat	PJM	2
Carl Monroe	SPP	2

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

- (a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

- (b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

- (c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments:

We suggest no changes be made to Categories B, C, and D as they presently exist in the Planning Standards. Choice of any of the above would result in a weakened and degraded reliability standard throughout NERC member systems.

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

Periodic Transmission Reviews to address changes in plans and tracking lists of BPS additions and modifications (that would include transmission, generation and other major equipment identified as a BPS element).

The resultant NERC standard should not be overly prescriptive in requirements for reporting progress/status on the standard. Flexibility should allow for the various documentation and processes already in place to achieve compliance.

4. Existing Planning Standard I.A requires: “*The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed*”.

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments: *The existing standards should not be weakened*

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments:

Determining a definition for Cascading Outage should be coordinated with the STDs 200 and 600.

This standard should make it abundantly clear that it applies to both internal and external systems, that is the system under study and adjacent systems, or the entire interconnection if appropriate.

Seasonal and weather related variability should be considered in studies.

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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

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Name:

Organization:

Industry Segment #:

Telephone:

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Regulatory or other Govt. Entities

Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group: Southern Co. Generation & Energy Marketing (SCGEM)	Group Chair: Roman Carter Chair Phone:205.257.6027 Chair Email:jrcarter@southernco.com	
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
Roman Carter	SCGEM	6
Joel Dison	<i>SCGEM</i>	<i>6</i>
Lucius Burris	<i>SCGEM</i>	<i>6</i>
Tony Reed	<i>SCGEM</i>	<i>6</i>
Lloyd Barnes	<i>SCGEM</i>	<i>6</i>
Clifford Shepard	SCGEM	6

Please Review Version 2 of the SAR and Answer the Following Questions

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1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Comments: Category C events are more likely to occur than Category D events and should require higher performance expectations.

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A.?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

Comments: Since the events are currently categorized correctly, 1.b and 1.c are not applicable.

Low consequence Category C events should be considered compliant. However, as we interpret Table I, a Category C event that results in low consequences (e.g. no cascading) is already considered compliant since entities can drop load or curtail firm transfers to return to applicable thermal or voltage ratings.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments: Too burdensome for the perceived benefits.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

4. Existing Planning Standard I.A requires: *"The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed"*.

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

- Yes (consider planned outages in all Categories A through D).
 Yes (consider planned outages in some Categories only).

Please specify which Categories: **Categories A and B only.**

- No
 Comments: The requirement to consider planned outages in addition to each Category A and B contingency should remain part of this planning standard. We agree with the SAR drafting team that exhaustive testing for every contingency described and every load level in each category is not practical.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments: Not aware of any at this time. However, Regional Differences could develop and each request for a Regional Difference should be considered individually.

6. Do you have any other comments on the SAR?

Comments:

Southern agrees that the Standard should provide a clearer definition of "cascading outages". We suggest that the following be considered: The uncontrolled successive loss of system elements triggered by contingencies which results in widespread electric service interruption 1) that drops 1000 mw of load or more or 2) that crosses control area boundaries.

In addition, Southern recommends that the Standard provide a clearer definition of what is meant by "system stable". We suggest that the following be considered: For category A and B simulations, system stable means that no generating units pull out of synchronism. For Category C events, system stable means that if units pull out of synchronism, 1) the resulting impedance swings are not out into the transmission system and 2) the total amount of generation lost because of out-of-step tripping does not exceed the control area operating reserve level.

In general, the NERC Standards need to have a common definition across the board for any definition used in a Standard. For example, the definition for "Cascading Outages" needs to be coordinated with the Standards Drafting Team (SDT) for the "Determine Facility Ratings, Operating Limits, and Transfer Capability" standard.

It would also be beneficial to the generation sector if the SDT for this new Planning Standard could summarize the differences between the existing Planning Standards I.A, I.B, I.D, II.A, and II.D and the new Planning Standard as it is being developed. This would gauge the potential impact to the plants. The main concerns have been 1) how to address regional differences (primarily related to

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Category C events), 2) how to differentiate Table I's application to the Planning world versus the Operations world, and 3) how to state the requirements more clearly.

The standard should include requirements for LSEs to provide forecast resource data required to develop power flow models as required in the current II.D standards. Accordingly, this standard should also apply to LSEs.

In relation to the methodology being used for incorporating planned generation assets in the model and how generation is dispatched, the type of each generating unit, the primary fuel type for each generating unit, and a dispatch order of the generating units should be required. In addition, a general description of the dispatch methodology used for the system should also be required. However, no cost information should be required.

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E-mail this form between May 1 and May 31, 2004 to: sarcomm@nerc.com with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of Standards – Gerry Cauley at 609-452-8060.

Background:

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- Is there a reliability-related need for an Organization Standard to be developed on this topic?

If there is such a need, how should the scope of the SAR be changed?

- The scope of the SAR is fine as is
- The scope of the SAR should be expanded to include.....
- The scope of the SAR should be reduced to eliminate.....

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Most of the industry respondents indicated that there is indeed a reliability-related need to develop a standard to address transmission assessment and planning issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant, and revised the SAR to conform to the changes that were technically sound and appeared to represent a consensus of participants.

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Please review Version 2 of the SAR and complete this Comment Form to let the SAR DT know if you agree or disagree with the SAR DT’s assessment that this SAR is ready to be developed into a Standard.

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a “check” mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

X Comments: Need to see outage probability data in order to answer definitively.

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

Based on good data, the probabilities of exiting C and D events could be estimated. The events could then be grouped into higher probability events (Category C) and lower probability events (Category D). AEP would be able to provide some outage data to support this analysis. Contact Ali Al-Fayez, Manager – Transmission Asset Performance (614 552-1649)

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

X Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice: Four categories are sufficient and generally understood by the industry. Specific changes that are supported by outage probabilities can be made, as appropriate, by moving Category C tests to Category D.

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

X Comments: “Good cause exceptions” can always be considered, but this approach should not be institutionalized.

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

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Yes

No

X Comments: The reporting requirements should not be burdensome, but they are needed to ensure a minimum level of accountability.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

A simple narrative explanation should be provided that explains what factors have eliminated the need for the transmission modification/addition or changed its timing. In cases where a modified solution has been developed, the Transmission Planner should demonstrate the effectiveness of the modified approach and compare to the original approach.

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories: B, C and D

No

X Comments: For Categories where planned maintenance is considered, it should only be necessary to test the most significant planned outages, not all possible planned outages.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

No

Comments:

6. Do you have any other comments on the SAR?

No

Comments:

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Background:

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Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.

(a). Do you believe that the events in Categories B, C & D are classified correctly?

Yes

No

Comments:

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

Keep the same categories as now exist, but allow for "good cause exceptions" upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice: Allow the flexibility for reasonable exceptions to the general categories based on frequency of occurrence. This may mean the possibility of a particular contingency moving up or down in category. This allowance permits appropriate exercise of engineering judgment in the planning process.

Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

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Comments:

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories:

No

Comments: The first priority should be to clarify the requirements of the I.A table. Utilities/ regions are interpreting the table differently. What was the original basis for the contingency categories and required response in the table? Clarify whether the original intent was to perform thermal, voltage and stability screens for all categories and the frequency at which the screenings were intended to be performed.

It is impractical to expect all screenings of all categories on a frequent basis. It may be appropriate to state that the table is for general guidance and that transmission owners may determine frequency at which studies should be performed based on load growth, system loading and significance of changes to the system.

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

Comments:

6. Do you have any other comments on the SAR?

Comments: Resource planning cannot be excluded from the standard. Guidance should be provided on incorporation of resource data from all LSE's and how resource deficiencies in outyear models should be handled (e.g. model fictitious generation with no reactive capability to ensure sufficient reactive resources are planned for if power is purchased from off system in the future). The increasingly frequent changes in resource designations are causing greater uncertainty in performance of planning for reliable system operation.

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17TempleE330Background:

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Comment Form for Version 2 of "Assess Transmission Future Needs and Develop Transmission Plans" SAR (2nd Posting)

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

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STD Commenter Information (For Groups Submitting Group Comments)		
Name of Group:		Group Chair: Peter Mackin Chair Phone: 916-631-3212 Chair Email: pmackin@navigantconsulting.com
List of Group Participants that Support These Comments:		
Name	Company	Industry Segment #
Peter Krzykos	Arizona Public Service	1
Chifong Thomas	Pacific Gas and Electric Co.	1
Peter Mackin	Transmission Agency of Northern California (TANC)	1
Matthew Stoltz	Basin Electric Power Cooperative	1
Bob Easton	Western Area Power Administration	1
Charles Russell	Salt River Project	1
Joe Seabrook	Puget Sound Energy	1, 3, and 5

Please Review Version 2 of the SAR and Answer the Following Questions

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Some members of the SAR drafting team believe that certain Category C events, as defined in Table 1 of existing Planning Standard I.A, are much less likely to occur than other events in Category C. It is felt that certain specific Cat. C events could be re-classified as Cat. D upon showing a low probability of occurrence (and low consequence) of these events.
 - (a). Do you believe that the events in Categories B, C & D are classified correctly?
 - Yes
 - No

Comment Form for Version 2 of “Assess Transmission Future Needs and Develop Transmission Plans” SAR (2nd Posting)

Comments:

The Categories should be based on probability of occurrence of the initiating events. A review of Table I (Standard IA) show that the contingencies in the same Categories seem to have very different probabilities of occurrence.

Category D needs to be split into two categories, the more probable Category D events should not be allowed to cascade. For example, the new no cascading category should include:

loss of 2 units at a plant

loss of adjacent lines in a right of way

loss of multiple bus sections as a result of failure or delayed clearing of a bus tie or bus sectionalizing breaker

There is no defined performance level for 3 phase fault, stuck breaker, and loss of one line.

(b). If your answer to (a) is No, how would you re-classify the events? If you have data to support your answer, please provide contact information for the individual responsible for the data.

See A. For support, see the NERC/WECC Planning Standards

(c) Which of the following approaches do you favor regarding Table 1 of existing Planning Standard I.A?:

Keep the same categories as now exist and re-classify the low probability (and low consequence) events as Category D events.

Please explain your choice:

Create a new category between C and D with performance characteristics between that of the present Categories C and D.

Please explain your choice

A no-cascading performance requirement is needed.

There are Category C events, which have a very low probability of occurrence. Such events, even if occurred should not lead to cascading, even though local facility ratings or voltage limits may be exceeded. Very often, the solution for such low probability contingencies would be to install relay system to interrupt load or generation. The probability of relay misoperation to prevent potential problems resulting from the contingency may be higher than the probability of the contingency itself. In this case, the system reliability would be better serve if we can add a category for such low probability contingencies (which would not result in cascading), and the risk of which is acceptable.

Keep the same categories as now exist, but allow for “good cause exceptions” upon a showing of low probability of occurrence (and low consequence) of specific Category C events.

Please explain your choice:

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Comments:

2. Do you believe the standard should include requirements for reporting on the progress or status of *implementing* the plans developed in accordance with this standard?

Yes

No

Comments:

Since many of the transmission plans are dependent upon factors such as, resource plans, local load projections, new technology, permitting, to name a few, it would not be meaningful to report on the status of implementation of a transmission plan. In any case, if a potential transmission problem is not solved, it will show up again in subsequent years, so there will be pressure to solve it. This continuous “certification” would ensure that any potential transmission problem, once identified, would not be left unsolved even without NERC requiring status reports on implementation.

3. If your answer to question 2 is Yes, given that transmission plans change over time as modeling assumptions, systems and plans change, how would you propose accounting for changes in a Transmission Plan?

4. Existing Planning Standard I.A requires: *“The systems must be capable of meeting Category C requirements while accommodating the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed”.*

The SAR drafting team believes that it is impractical to exhaustively test for every contingency described in each category plus every conceivable planned outage. Should the requirement to consider planned outages in addition to each Category A through D contingency remain part of this planning standard?

Yes (consider planned outages in all Categories A through D).

Yes (consider planned outages in some Categories only).

Please specify which Categories: **A, B, and C (except C-3)**

No

Comments: **All contingencies where a single point of failure could cause facilities to be lost should be tested for compliance with the standards even under planned maintenance conditions. However, it should never be necessary to exhaustively test every possible combination of outages. Those contingencies that are clearly not critical outages should not have to be simulated.**

5. Are you aware of any Regional or Interconnection differences in the requirements for assessing and planning transmission systems in North America? If so, please list and explain.

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Comments: The existing NERC Standard C-9 (and C-2 for bus sectionalizing breakers) as it applies to WECC should be modified so that thermal limit and voltage limit violations are allowed for bus sectionalizing breaker failures. However, under no conditions should system instability or cascading outages be allowed for bus sectionalizing breaker failures.

6. Do you have any other comments on the SAR?

– Comments: On Page SAR-5 of the draft SAR, the third bullet states: "The Standard should allow for the development and use of probabilistic planning methods. The minimum requirements of probabilistic methods are the contingencies as described in Table 1 of existing Planning Standard I.A. There should be NERC approval of acceptable levels of risk."

–

It appears to us that as written, the standard that flows from this SAR can only allow the probabilistic planning methods to make the standard more, not less, stringent than the existing Standard IA. This is not the way probabilistic planning methods should work. This statement also does not make sense when you read the next sentence, "There should be NERC approval of acceptable levels of risk." If the standard can only be more stringent, then there is no need for NERC to approve the level of risk, or even the probability of occurrence of the contingency. One way to resolve this issue would be to change the word "minimum" to "starting".

The NERC Planning Standards should follow what WECC is doing with regard to listing disturbances as a guide, but say that other disturbances with the same probability should be included. List the probability ranges (outages per year), Category B: ≥ 0.33 , Category C: 0.33 to 0.033; Category D1 (no cascading): 0.033 to .0033, Category D2: $< .0033$.

The standard should allow for changes in the required performance for given disturbances if a probability in another range has been established for a given disturbance.

NERC should specify voltage dip and minimum frequency standards similar to WECC (i.e., the voltage dip and minimum frequency should be within Applicable Ratings). We are not proposing that NERC set fixed values for these standards that would be the same throughout the ten NERC Regions.