NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

July 11, 2008

VIA OVERNIGHT MAIL

Ms. Erica Hamilton, Commission Secretary
British Columbia Utilities Commission
Box 250, 900 Howe Street
Sixth Floor
Vancouver, B.C.
V6Z 2N3

Re: *North American Electric Reliability Corporation*

Dear Ms. Hamilton:

The North American Electric Reliability Corporation ("NERC") hereby submits Notice of Filing of the North American Electric Reliability Corporation FAC-010-2, FAC-011-2 and FAC-014-2 Reliability Standards. In addition to the paper copy of this filing, NERC is also submitting one CD containing a copy of the filing. NERC requests, to the extent necessary, a waiver of any applicable filing requirements with respect to the filing of this notice.

Please contact the undersigned if you have any questions.

Respectfully submitted,

/s/ Rick Sergel
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Enclosures

BEFORE THE
BRITISH COLUMBIA UTILITIES COMMISSION
OF THE PROVINCE OF BRITISH COLUMBIA

NORTH AMERICAN ELECTRIC)
RELIABILITY CORPORATION)

NOTICE OF FILING OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION FAC-010-2, FAC-011-2 and FAC-014-2 RELIABILITY STANDARDS

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I. INTRODUCTION

The North American Electric Reliability Corporation ("NERC") hereby files notice of three NERC Reliability Standards, FAC-010-2 — System Operating Limits Methodology for the Planning Horizon, FAC-011-2 — System Operating Limits Methodology for the Operations Horizon and FAC-014-2 — Establish and Communicate System Operating Limits. These proposed Reliability Standards supersede Version 1 of these Reliability Standards and were developed pursuant to the Federal Energy Regulatory Commission ("FERC" or "Commission") directives in Order No. 705,[1] in which the Commission approved Version 1 of these proposed Reliability Standards.

On June 27, 2008, the NERC Board of Trustees approved the three proposed Reliability Standards that are the subject of this petition.

Exhibit A to this filing sets forth the proposed Reliability Standards. **Exhibit B** provides the rationale for the assignment of Violation Severity Levels to the proposed Reliability Standards. **Exhibit C** contains the members of the standard drafting team roster that developed the proposed Reliability Standards. **Exhibit D** contains the complete development record of the proposed Reliability Standards.

NERC has filed these proposed Reliability Standards with FERC on June 30, 2008 and also is filing these proposed Reliability Standards with the other governmental authorities in Canadian provinces and with the National Energy Board of Canada.

II. NOTICES AND COMMUNICATIONS

Notices and communications with respect to this filing may be addressed to the following:

[1] *Facilities Design, Connections and Maintenance Reliability Standards,* 121 FERC ¶ 61,296 (2007) ("Order No. 705").

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III. BACKGROUND

The Reliability Standards in this filing are revised versions of existing Reliability Standards that directly address matters identified by the Commission in Order No. 705. Because the proposed Reliability Standards were developed in response to Commission Order No. 705, they were not included in NERC's standards development work plan as developed in the Fall of 2007.

IV. DISCUSSION OF THE PROPOSED RELIABILITY STANDARDS

The Commission approved Reliability Standards FAC-010-1, FAC-011-1 and FAC-014-1 in Order No. 705[2] on December 27, 2007. The Commission found that Version 1 of these Reliability Standards were just, reasonable, not unduly discriminatory or preferential and in the public interest. However, the Commission directed NERC, *inter alia*, to address certain issues as follows:

- The Commission indicated disagreement[3] with NERC's application of the phrase "load greater than studied" in Requirement R2.3.2 in FAC-011-1.
- The Commission remanded the term "Cascading Outages" and stated that NERC could refile a revised definition to address the Commission's concerns[4].

[2] *Id.* at P 1.
[3] *Id.* at P 70.

- The Commission directed NERC to file Violation Severity Levels[5] for each Reliability Standard to replace "Levels of Non-Compliance" by the time the Reliability Standards become effective: July 1, 2008 for FAC-010-1; October 1, 2008 for FAC-011-1; and January 1, 2009 for FAC-014-1.
- The Commission directed NERC to clarify the use of the term "loss of consequential load"[6] in Requirement R2.3 in FAC-010-1 and FAC-011-1.

NERC used the ***Reliability Standards Development Procedure***, Version 6.1 to make the following revisions to FAC-010-1, FAC-011-1 and FAC-014-1 to meet the directives in paragraphs 53, 70, 111 and 137 of Order No. 705 as follows:

- FAC-011-1 was revised to remove the phrase, "load greater than studied" from Requirement R2.3.2. As the phrase serves as an example, its removal does not materially change the requirement or the reliability standard.
- The NERC Board of Trustees withdrew its approval of the term "Cascading Outage" at its February 12, 2008 meeting. The drafting team reviewed the term "Cascading Outage" relative to the term "Cascading," a term in the approved NERC Glossary of Terms and indicated there were no intended material differences in the terms. As a result, the term "Cascading Outage" was removed from proposed FAC-010-2 and FAC-011-2 Reliability Standards and replaced with the term "Cascading."
- Regarding the term "loss of consequential load," NERC believes that revisions to this term is best addressed in the modifications being made to the

[4] *Id.* at P 111.
[5] *Id.* at P 137.
[6] *Id.* at P 53.

transmission planning ("TPL") family of standards in Project 2006-02 Assess Transmission Future Needs and Develop Transmission Plans. As NERC stated in its response to the Notice of Proposed Rulemaking on FAC-010-1, FAC-011-1 and FAC-014-1, the TPL standards that define acceptable system performance response serve as the foundation for the FAC family of standards. The term "loss of consequential load" is intrinsic to the scope of Project 2006-02; the drafting team has already proposed a definition for the term to be presented for approval for inclusion in NERC's Glossary of Terms. This proposed approach will provide the clarity needed for this term.

- NERC developed a full suite of Violation Severity Levels for FAC-010-2, FAC-011-2 and FAC-014-2. The rationale for development of the Violation Severity Level assignments for the proposed Reliability Standards is included in **Exhibit B**. Subsequently, on June 19, 2008, the Commission issued its "Order on Violation Severity Levels Proposed by the Electric Reliability Organization" in Docket No. RR08-4-000.[7] In the June 19 Order, the Commission announced four new guidelines to be used to determine the validity of Violation Severity Level assignments.[8] However, the Commission noted that these guidelines were not intended to replace NERC's seven classifications or related criteria, rather they just provide an additional level of analysis.[9] NERC commits to assess the Violation Severity Levels using the four new guidelines in the six month compliance filing required by the June 19 Order.

[7] *North American Electric Reliability Corporation*, 123 FERC ¶ 61,284 (2008) ("June 19 Order").
[8] *Id.* at P 17.
[9] *Id.* at P 18.

V. SUMMARY OF THE RELIABILITY STANDARD DEVELOPMENT PROCEEDINGS

On December 27, 2007, the Commission issued Order No. 705 approving FAC-010-1, FAC-011-1 and FAC-014-1 Reliability Standards to become mandatory and enforceable in the United States. In the Order, FERC also directed NERC to make the following modifications using the Reliability Standards Development Process:

- FAC-010-1 Requirement R2.3 — clarify what is meant by the term, "loss of consequential load"
- FAC-011-1 Requirement R2.3 — clarify what is meant by the term, "loss of consequential load"
- FAC-011-1 Requirement R2.3.2 — eliminate the phrase, "load greater than studied"

In addition, FERC:

- Remanded the definition of "Cascading Outage" to NERC;
- Accepted three new definitions for inclusion in the NERC Glossary;
- Directed that "Levels of Non-Compliance" be replaced with the "Violation Severity Levels" before the FAC standards take effect;
- Directed NERC to modify Violation Risk Factors in accordance with FERC's directives in the Order; and
- Accepted NERC's proposal for modified effective dates for the three standards.

At the February 12, 2008 Board of Trustees meeting, the NERC Board:

- Approved revised Violation Risk Factors as directed in Order No. 705;

- Established new effective dates of July 1, 2008, for FAC-010-1; October 1, 2008, for FAC-011-1; and January 1, 2009, for FAC-014-; and.
- Withdrew its November 1, 2006 approval of the definition of "Cascading Outage" without prejudice to the ongoing work of the FAC standards drafting team and the revised standards that are developed through the standards development process.

On January 11, 2008, the chair of the Facility Ratings standard drafting team submitted a standards authorization request ("SAR") with proposed standards revisions to:

- Address the issue of "loss of consequential load" in FAC-010-1 and FAC-011-1;
- To eliminate the phrase, "load greater than studied" in FAC-011-1;
- Remove the term "cascading outage" in FAC-010-1 and FAC-011-1 and replace with the existing NERC-approved term "cascading"; and
- Propose Violation Severity Levels to replace Levels of Non-Compliance in all three standards.

The SAR and associated standards were posted for industry comment from January 24 through March 7, 2008. There were 22 sets of comments from more than 130 people representing over 50 companies and 9 of the 10 industry segments. The commenters generally supported these activities. However, to the issue concerning "loss of consequential load," the drafting team determined, from the comments, that it would be more appropriate that the drafting team assigned to modify the TPL Reliability Standards address the clarification desired to "loss of consequential load."

The SAR and associated standards were again posted for industry comment from March 31 through April 29, 2008. There were 13 sets of comments from over 60 people representing 45 companies from 8 of the 10 industry segments. The drafting team made only clarifying edits as a result of the feedback and requested the Standards Committee authorize moving the proposed standards to ballot. Most commenters that commented disagreed with the method that the Violation Severity Levels were developed for certain requirements and associated sub-requirements, preferring that each sub-requirements be given equal weight in supporting the overall performance expectation of the main requirement. The drafting team did not agree that each sub-requirement carried equal weight and therefore did not modify the proposed Violation Severity Levels. This topic is discussed in detail in **Exhibit B**.

The Standards Committee authorized moving the proposed standards to ballot on its May 2, 2008 conference call. NERC opened its pre-ballot window for 30 days from May 2 through June 1, 2008.

The initial ballot was held from June 2 through June 11, 2008. The ballot achieved 95.43 percent weighted segment approval rating with 88.83 percent of the ballot pool participating in the event. However, there were seven negative votes associated with comments necessitating a recirculation ballot, in addition to two affirmative votes with comment. With the exception of typographical errors, no other changes to the standards were made by the team in response to the comments. The drafting team considered the comments and responded to the main themes as summarized below:

- Some balloters proposed modifications to the standards that involve modifications outside the drafting team's control. One balloter proposed

modifying several sets of Violation Severity Levels to treat each of the sub-requirements as though they were of equal weight in contributing to the main requirement. The drafting team gave serious consideration to the contribution of each sub-requirement in achieving the objective of the associated requirement – and the team does not believe that all sub-requirements are of equal weight. For example, if the Planning Authority is required to have a methodology for developing system operating limits, and the methodology that is developed is not suitable for use in the planning horizon, then the methodology cannot be used for its intended purpose – and the intent of the requirement has been totally missed. This meets the criteria for a "Severe" Violation Severity Level. If the Violation Severity Levels were modified as proposed by the commenter, missing this sub-requirement would be classified as a "Lower" Violation Severity Level.

- One balloter suggested that the proposed dates in the implementation plan for the Version 2 standards could be confusing as entities would not know with which requirements to comply. The drafting team noted that there will only be one standard in place at a time, and since the requirements in the proposed standards are the same as those in the already approved "Version 1" standards, it should not be difficult to know what performance is required. (The effective dates of the proposed standards are the same as the approved effective dates for Version 1 of these standards. As the requirements have not materially changed, there are no differing performance expectations from Version 1 to Version 2.)

- One balloter proposed changes to improve the readability or to move some of the Violation Severity Levels from one category to another. The drafting team did not make any of these changes as they do not seem warranted based on the high level of approval achieved during the initial ballot.

NERC conducted the recirculation ballot for the proposed standards from June 13 through June 22, 2008. The ballot achieved 95.21 percent weighted segment approval rating with 89.36 percent of the ballot pool participating in the event. Thus, the proposed Reliability Standards achieved the necessary 75 percent of ballot pool participants and the required two-thirds weighted segment vote to demonstrate consensus. The NERC Board approved these proposed Reliability Standards on June 27, 2008 by email ballot.

In summary, NERC processed the modifications to the FAC-010-1, FAC-011-1 and FAC-014-1 reliability standards, including development of Violation Severity Levels, in accordance with the NERC *Reliability Standards Development Procedure, Version 6.1*.

Respectfully submitted,

/s/ Rebecca J. Michael

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Exhibit A

Reliability Standards
FAC-010-2, FAC-011-2, and FAC-014-2

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Project 2008-04 — Revisions to FAC-010, FAC-011, and FAC-014

Standard Development Roadmap

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed:

SAR posted for comment with draft standard for 45-day comment period from January 21–March 5, 2008.

Second draft of SAR and proposed changes to standards posted for a 30-day comment period from March 31–April 29, 2008.

Posted for 30-day pre-ballot review from May 2–31, 2008.

Initial ballot conducted from June 2–12, 2008

Proposed Action Plan and Description of Current Draft:

This is the fourth draft of the standard, posted for recirculation ballot.

Future Development Plan:

Anticipated Actions	Anticipated Date
1. Post response to comments on initial ballot.	June 13, 2008
2. Conduct recirculation ballot.	June 13–22, 2008
3. Board adoption.	June 26, 2008
4. Submit to regulatory authorities for approval.	June 30, 2008

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these defined terms will be removed from the individual standard and added to the Glossary.

The following definition should be retired from the NERC Glossary of Terms Used in Reliability Standards when this standard is approved:

Cascading Outages: The uncontrolled successive loss of Bulk Electric System Facilities triggered by an incident (or condition) at any location resulting in the interruption of electric service that cannot be restrained from spreading beyond a predetermined area.

A. Introduction

1. **Title:** **System Operating Limits Methodology for the Planning Horizon**

2. **Number:** FAC-010-2

3. **Purpose:** To ensure that System Operating Limits (SOLs) used in the reliable planning of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.

4. **Applicability**

   4.1. Planning Authority

5. **Effective Date:** July 1, 2008

B. Requirements

R1. The Planning Authority shall have a documented SOL Methodology for use in developing SOLs within its Planning Authority Area. This SOL Methodology shall:

R1.1. Be applicable for developing SOLs used in the planning horizon.

R1.2. State that SOLs shall not exceed associated Facility Ratings.

R1.3. Include a description of how to identify the subset of SOLs that qualify as IROLs.

R2. The Planning Authority's SOL Methodology shall include a requirement that SOLs provide BES performance consistent with the following:

R2.1. In the pre-contingency state and with all Facilities in service, the BES shall demonstrate transient, dynamic and voltage stability; all Facilities shall be within their Facility Ratings and within their thermal, voltage and stability limits. In the determination of SOLs, the BES condition used shall reflect expected system conditions and shall reflect changes to system topology such as Facility outages.

R2.2. Following the single Contingencies[1] identified in Requirement 2.2.1 through Requirement 2.2.3, the system shall demonstrate transient, dynamic and voltage stability; all Facilities shall be operating within their Facility Ratings and within their thermal, voltage and stability limits; and Cascading or uncontrolled separation shall not occur.

R2.2.1. Single line to ground or three-phase Fault (whichever is more severe), with Normal Clearing, on any Faulted generator, line, transformer, or shunt device.

R2.2.2. Loss of any generator, line, transformer, or shunt device without a Fault.

R2.2.3. Single pole block, with Normal Clearing, in a monopolar or bipolar high voltage direct current system.

R2.3. Starting with all Facilities in service, the system's response to a single Contingency, may include any of the following:

[1] The Contingencies identified in R2.2.1 through R2.2.3 are the minimum contingencies that must be studied but are not necessarily the only Contingencies that should be studied.

R2.3.1. Planned or controlled interruption of electric supply to radial customers or some local network customers connected to or supplied by the Faulted Facility or by the affected area.

R2.3.2. System reconfiguration through manual or automatic control or protection actions.

R2.4. To prepare for the next Contingency, system adjustments may be made, including changes to generation, uses of the transmission system, and the transmission system topology.

R2.5. Starting with all Facilities in service and following any of the multiple Contingencies identified in Reliability Standard TPL-003 the system shall demonstrate transient, dynamic and voltage stability; all Facilities shall be operating within their Facility Ratings and within their thermal, voltage and stability limits; and Cascading or uncontrolled separation shall not occur.

R2.6. In determining the system's response to any of the multiple Contingencies, identified in Reliability Standard TPL-003, in addition to the actions identified in R2.3.1 and R2.3.2, the following shall be acceptable:

R2.6.1. Planned or controlled interruption of electric supply to customers (load shedding), the planned removal from service of certain generators, and/or the curtailment of contracted Firm (non-recallable reserved) electric power Transfers.

R3. The Planning Authority's methodology for determining SOLs, shall include, as a minimum, a description of the following, along with any reliability margins applied for each:

R3.1. Study model (must include at least the entire Planning Authority Area as well as the critical modeling details from other Planning Authority Areas that would impact the Facility or Facilities under study).

R3.2. Selection of applicable Contingencies.

R3.3. Level of detail of system models used to determine SOLs.

R3.4. Allowed uses of Special Protection Systems or Remedial Action Plans.

R3.5. Anticipated transmission system configuration, generation dispatch and Load level.

R3.6. Criteria for determining when violating a SOL qualifies as an Interconnection Reliability Operating Limit (IROL) and criteria for developing any associated IROL T_V.

R4. The Planning Authority shall issue its SOL Methodology, and any change to that methodology, to all of the following prior to the effectiveness of the change:

R4.1. Each adjacent Planning Authority and each Planning Authority that indicated it has a reliability-related need for the methodology.

R4.2. Each Reliability Coordinator and Transmission Operator that operates any portion of the Planning Authority's Planning Authority Area.

R4.3. Each Transmission Planner that works in the Planning Authority's Planning Authority Area.

R5. If a recipient of the SOL Methodology provides documented technical comments on the methodology, the Planning Authority shall provide a documented response to that recipient within 45 calendar days of receipt of those comments. The response shall indicate whether a change will be made to the SOL Methodology and, if no change will be made to that SOL Methodology, the reason why.

C. Measures

M1. The Planning Authority's SOL Methodology shall address all of the items listed in Requirement 1 through Requirement 3.

M2. The Planning Authority shall have evidence it issued its SOL Methodology and any changes to that methodology, including the date they were issued, in accordance with Requirement 4.

M3. If the recipient of the SOL Methodology provides documented comments on its technical review of that SOL methodology, the Planning Authority that distributed that SOL Methodology shall have evidence that it provided a written response to that commenter within 45 calendar days of receipt of those comments in accordance with Requirement 5.

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

Regional Reliability Organization

1.2. Compliance Monitoring Period and Reset Time Frame

Each Planning Authority shall self-certify its compliance to the Compliance Monitor at least once every three years. New Planning Authorities shall demonstrate compliance through an on-site audit conducted by the Compliance Monitor within the first year that it commences operation. The Compliance Monitor shall also conduct an on-site audit once every nine years and an investigation upon complaint to assess performance.

The Performance-Reset Period shall be twelve months from the last non-compliance.

1.3. Data Retention

The Planning Authority shall keep all superseded portions to its SOL Methodology for 12 months beyond the date of the change in that methodology and shall keep all documented comments on its SOL Methodology and associated

responses for three years. In addition, entities found non-compliant shall keep information related to the non-compliance until found compliant.

The Compliance Monitor shall keep the last audit and all subsequent compliance records.

1.4. Additional Compliance Information

The Planning Authority shall make the following available for inspection during an on-site audit by the Compliance Monitor or within 15 business days of a request as part of an investigation upon complaint:

1.4.1 SOL Methodology.

1.4.2 Documented comments provided by a recipient of the SOL Methodology on its technical review of a SOL Methodology, and the associated responses.

1.4.3 Superseded portions of its SOL Methodology that had been made within the past 12 months.

1.4.4 Evidence that the SOL Methodology and any changes to the methodology that occurred within the past 12 months were issued to all required entities.

2. Levels of Non-Compliance for Western Interconnection: (To be replaced with VSLs once developed and approved by WECC)

2.1. Level 1: There shall be a level one non-compliance if either of the following conditions exists:

2.1.1 The SOL Methodology did not include a statement indicating that Facility Ratings shall not be exceeded.

2.1.2 No evidence of responses to a recipient's comments on the SOL Methodology.

2.2. Level 2: The SOL Methodology did not include a requirement to address all of the elements in R2.1 through R2.3 and E1.

2.3. Level 3: There shall be a level three non-compliance if any of the following conditions exists:

2.3.1 The SOL Methodology did not include a statement indicating that Facility Ratings shall not be exceeded and the methodology did not include evaluation of system response to one of the three types of single Contingencies identified in R2.2.

2.3.2 The SOL Methodology did not include a statement indicating that Facility Ratings shall not be exceeded and the methodology did not include evaluation of system response to two of the seven types of multiple Contingencies identified in E1.1.

2.3.3 The System Operating Limits Methodology did not include a statement indicating that Facility Ratings shall not be exceeded and the methodology did not address two of the six required topics in R3.

2.4. Level 4: The SOL Methodology was not issued to all required entities in accordance with R4.

3. Violation Severity Levels:

R1	Not applicable.	The Planning Authority has a documented SOL Methodology for use in developing SOLs within its Planning Authority Area, but it does not address R1.2	The Planning Authority has a documented SOL Methodology for use in developing SOLs within its Planning Authority Area, but it does not address R1.3.	The Planning Authority has a documented SOL Methodology for use in developing SOLs within its Planning Authority Area, but it does not address R1.1. OR The Planning Authority has no documented SOL Methodology for use in developing SOLs within its Planning Authority Area.
R2	The Planning Authority's SOL Methodology requires that SOLs are set to meet BES performance following single and multiple contingencies, but does not address the pre-contingency state (R2.1)	The Planning Authority's SOL Methodology requires that SOLs are set to meet BES performance in the pre-contingency state and following single contingencies, but does not address multiple contingencies. (R2.5-R2.6)	The Planning Authority's SOL Methodology requires that SOLs are set to meet BES performance in the pre-contingency state and following multiple contingencies, but does not meet the performance for response to single contingencies. (R2.2 –R2.4)	The Planning Authority's SOL Methodology requires that SOLs are set to meet BES performance in the pre-contingency state but does not require that SOLs be set to meet the BES performance specified for response to single contingencies (R2.2-R2.4) and does not require that SOLs be set to meet the BES performance specified for response to multiple contingencies. (R2.5-R2.6)
R3	The Planning Authority has a methodology for determining SOLs that	The Planning Authority has a methodology for determining SOLs that	The Planning Authority has a methodology for determining SOLs that	The Planning Authority has a methodology for determining SOLs that is

	includes a description for all but one of the following: R3.1 through R3.6.	includes a description for all but two of the following: R3.1 through R3.6.	includes a description for all but three of the following: R3.1 through R3.6.	missing a description of four or more of the following: R3.1 through R3.6.
R4	One or both of the following: The Planning Authority issued its SOL Methodology and changes to that methodology to all but one of the required entities. For a change in methodology, the changed methodology was provided up to 30 calendar days after the effectiveness of the change.	One of the following: The Planning Authority issued its SOL Methodology and changes to that methodology to all but one of the required entities AND for a change in methodology, the changed methodology was provided 30 calendar days or more, but less than 60 calendar days after the effectiveness of the change. OR The Planning Authority issued its SOL Methodology and changes to that methodology to all but two of the required entities AND for a change in methodology, the changed methodology was provided up to 30 calendar days after the effectiveness of the change.	One of the following: The Planning Authority issued its SOL Methodology and changes to that methodology to all but one of the required entities AND for a change in methodology, the changed methodology was provided 60 calendar days or more, but less than 90 calendar days after the effectiveness of the change. OR The Planning Authority issued its SOL Methodology and changes to that methodology to all but two of the required entities AND for a change in methodology, the changed methodology was provided 30 calendar days or more, but less than 60 calendar days after the effectiveness of the change. OR The Planning Authority issued its SOL Methodology	One of the following: The Planning Authority failed to issue its SOL Methodology and changes to that methodology to more than three of the required entities. The Planning Authority issued its SOL Methodology and changes to that methodology to all but one of the required entities AND for a change in methodology, the changed methodology was provided 90 calendar days or more after the effectiveness of the change. OR The Planning Authority issued its SOL Methodology and changes to that methodology to all but two of the required entities AND for a change in methodology, the changed methodology was provided 60 calendar days or more, but less than 90 calendar

			and changes to that methodology to all but three of the required entities AND for a change in methodology, the changed methodology was provided up to 30 calendar days after the effectiveness of the change.	days after the effectiveness of the change. OR The Planning Authority issued its SOL Methodology and changes to that methodology to all but three of the required entities AND for a change in methodology, the changed methodology was provided 30 calendar days or more, but less than 60 calendar days after the effectiveness of the change. The Planning Authority issued its SOL Methodology and changes to that methodology to all but four of the required entities AND for a change in methodology, the changed methodology was provided up to 30 calendar days after the effectiveness of the change.

R5	The Planning Authority received documented technical comments on its SOL Methodology and provided a complete response in a time period that was longer than 45 calendar days but less than 60 calendar days.	The Planning Authority received documented technical comments on its SOL Methodology and provided a complete response in a time period that was 60 calendar days or longer but less than 75 calendar days.	The Planning Authority received documented technical comments on its SOL Methodology and provided a complete response in a time period that was 75 calendar days or longer but less than 90 calendar days. OR The Planning Authority's response to documented technical comments on its SOL Methodology indicated that a change will not be made, but did not include an explanation of why the change will not be made.	The Planning Authority received documented technical comments on its SOL Methodology and provided a complete response in a time period that was 90 calendar days or longer. OR The Planning Authority's response to documented technical comments on its SOL Methodology did not indicate whether a change will be made to the SOL Methodology.

E. Regional Differences

1. The following Interconnection-wide Regional Difference shall be applicable in the Western Interconnection:

1.1. As governed by the requirements of R2.4 and R2.5, starting with all Facilities in service, shall require the evaluation of the following multiple Facility Contingencies when establishing SOLs:

1.1.1 Simultaneous permanent phase to ground Faults on different phases of each of two adjacent transmission circuits on a multiple circuit tower, with Normal Clearing. If multiple circuit towers are used only for station entrance and exit purposes, and if they do not exceed five towers at each station, then this condition is an acceptable risk and therefore can be excluded.

1.1.2 A permanent phase to ground Fault on any generator, transmission circuit, transformer, or bus section with Delayed Fault Clearing except for bus sectionalizing breakers or bus-tie breakers addressed in E1.1.7

1.1.3 Simultaneous permanent loss of both poles of a direct current bipolar Facility without an alternating current Fault.

1.1.4 The failure of a circuit breaker associated with a Special Protection System to operate when required following: the loss of any element without a Fault; or a permanent phase to ground Fault, with Normal Clearing, on any transmission circuit, transformer or bus section.

1.1.5 A non-three phase Fault with Normal Clearing on common mode Contingency of two adjacent circuits on separate towers unless the event frequency is determined to be less than one in thirty years.

1.1.6 A common mode outage of two generating units connected to the same switchyard, not otherwise addressed by FAC-010.

1.1.7 The loss of multiple bus sections as a result of failure or delayed clearing of a bus tie or bus sectionalizing breaker to clear a permanent Phase to Ground Fault.

1.2. SOLs shall be established such that for multiple Facility Contingencies in E1.1.1 through E1.1.5 operation within the SOL shall provide system performance consistent with the following:

1.2.1 All Facilities are operating within their applicable Post-Contingency thermal, frequency and voltage limits.

1.2.2 Cascading does not occur.

1.2.3 Uncontrolled separation of the system does not occur.

1.2.4 The system demonstrates transient, dynamic and voltage stability.

1.2.5 Depending on system design and expected system impacts, the controlled interruption of electric supply to customers (load shedding), the planned removal from service of certain generators, and/or the curtailment of

contracted firm (non-recallable reserved) electric power transfers may be necessary to maintain the overall security of the interconnected transmission systems.

1.2.6 Interruption of firm transfer, Load or system reconfiguration is permitted through manual or automatic control or protection actions.

1.2.7 To prepare for the next Contingency, system adjustments are permitted, including changes to generation, Load and the transmission system topology when determining limits.

1.3. SOLs shall be established such that for multiple Facility Contingencies in E1.1.6 through E1.1.7 operation within the SOL shall provide system performance consistent with the following with respect to impacts on other systems:

1.3.1 Cascading does not occur.

1.4. The Western Interconnection may make changes (performance category adjustments) to the Contingencies required to be studied and/or the required responses to Contingencies for specific facilities based on actual system performance and robust design. Such changes will apply in determining SOLs.

Version History

Version	Date	Action	Change Tracking
1	November 1, 2006	Adopted by Board of Trustees	New
1	November 1, 2006	Fixed typo. Removed the word “each” from the 1st sentence of section D.1.3, Data Retention.	01/11/07
2		Changed the effective date to July 1, 2008 Changed “Cascading Outage” to “Cascading” Replaced Levels of Non-compliance with Violation Severity Levels	Revised

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Project 2008-04 — Revisions to FAC-010, FAC-011, and FAC-014

Standard Development Roadmap

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed:

SAR posted for comment with draft standard for 45-day comment period from January 21 – March 5, 2008.

Second draft of SAR and proposed changes to standards posted for a 30-day comment period from March 31–April 29, 2008.

Posted for 30-day pre-ballot review from May 2–31, 2008.

Initial ballot conducted from June 2–12, 2008

Proposed Action Plan and Description of Current Draft:

This is the fourth draft of Standard posted for recirculation ballot review.

Future Development Plan:

Anticipated Actions	Anticipated Date
1. Post response to comments on initial ballot.	June 13, 2008
2. Conduct recirculation ballot.	June 13–22, 2008
3. Board adoption.	June 26, 2008
4. Submit to regulatory authorities for approval.	June 30, 2008

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these defined terms will be removed from the individual standard and added to the Glossary.

None.

A. Introduction

1. **Title:** **System Operating Limits Methodology for the Operations Horizon**

2. **Number:** FAC-011-2

3. **Purpose:** To ensure that System Operating Limits (SOLs) used in the reliable operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.

4. **Applicability**

   4.1. Reliability Coordinator

5. **Effective Date:** October 1, 2008

B. Requirements

R1. The Reliability Coordinator shall have a documented methodology for use in developing SOLs (SOL Methodology) within its Reliability Coordinator Area. This SOL Methodology shall:

R1.1. Be applicable for developing SOLs used in the operations horizon.

R1.2. State that SOLs shall not exceed associated Facility Ratings.

R1.3. Include a description of how to identify the subset of SOLs that qualify as IROLs.

R2. The Reliability Coordinator's SOL Methodology shall include a requirement that SOLs provide BES performance consistent with the following:

R2.1. In the pre-contingency state, the BES shall demonstrate transient, dynamic and voltage stability; all Facilities shall be within their Facility Ratings and within their thermal, voltage and stability limits. In the determination of SOLs, the BES condition used shall reflect current or expected system conditions and shall reflect changes to system topology such as Facility outages.

R2.2. Following the single Contingencies[1] identified in Requirement 2.2.1 through Requirement 2.2.3, the system shall demonstrate transient, dynamic and voltage stability; all Facilities shall be operating within their Facility Ratings and within their thermal, voltage and stability limits; and Cascading or uncontrolled separation shall not occur.

R2.2.1. Single line to ground or 3-phase Fault (whichever is more severe), with Normal Clearing, on any Faulted generator, line, transformer, or shunt device.

R2.2.2. Loss of any generator, line, transformer, or shunt device without a Fault.

R2.2.3. Single pole block, with Normal Clearing, in a monopolar or bipolar high voltage direct current system.

R2.3. In determining the system's response to a single Contingency, the following shall be acceptable:

[1] The Contingencies identified in FAC-011 R2.2.1 through R2.2.3 are the minimum contingencies that must be studied but are not necessarily the only Contingencies that should be studied.

R2.3.1. Planned or controlled interruption of electric supply to radial customers or some local network customers connected to or supplied by the Faulted Facility or by the affected area.

R2.3.2. Interruption of other network customers, (a) only if the system has already been adjusted, or is being adjusted, following at least one prior outage, or (b) if the real-time operating conditions are more adverse than anticipated in the corresponding studies

R2.3.3. System reconfiguration through manual or automatic control or protection actions.

R2.4. To prepare for the next Contingency, system adjustments may be made, including changes to generation, uses of the transmission system, and the transmission system topology.

R3. The Reliability Coordinator's methodology for determining SOLs, shall include, as a minimum, a description of the following, along with any reliability margins applied for each:

R3.1. Study model (must include at least the entire Reliability Coordinator Area as well as the critical modeling details from other Reliability Coordinator Areas that would impact the Facility or Facilities under study.)

R3.2. Selection of applicable Contingencies

R3.3. A process for determining which of the stability limits associated with the list of multiple contingencies (provided by the Planning Authority in accordance with FAC-014 Requirement 6) are applicable for use in the operating horizon given the actual or expected system conditions.

R3.3.1. This process shall address the need to modify these limits, to modify the list of limits, and to modify the list of associated multiple contingencies.

R3.4. Level of detail of system models used to determine SOLs.

R3.5. Allowed uses of Special Protection Systems or Remedial Action Plans.

R3.6. Anticipated transmission system configuration, generation dispatch and Load level

R3.7. Criteria for determining when violating a SOL qualifies as an Interconnection Reliability Operating Limit (IROL) and criteria for developing any associated IROL T_V.

R4. The Reliability Coordinator shall issue its SOL Methodology and any changes to that methodology, prior to the effectiveness of the Methodology or of a change to the Methodology, to all of the following:

R4.1. Each adjacent Reliability Coordinator and each Reliability Coordinator that indicated it has a reliability-related need for the methodology.

R4.2. Each Planning Authority and Transmission Planner that models any portion of the Reliability Coordinator's Reliability Coordinator Area.

R4.3. Each Transmission Operator that operates in the Reliability Coordinator Area.

R5. If a recipient of the SOL Methodology provides documented technical comments on the methodology, the Reliability Coordinator shall provide a documented response to that recipient within 45 calendar days of receipt of those comments. The response shall indicate whether a change will be made to the SOL Methodology and, if no change will be made to that SOL Methodology, the reason why.

C. Measures

M1. The Reliability Coordinator's SOL Methodology shall address all of the items listed in Requirement 1 through Requirement 3.

M2. The Reliability Coordinator shall have evidence it issued its SOL Methodology, and any changes to that methodology, including the date they were issued, in accordance with Requirement 4.

M3. If the recipient of the SOL Methodology provides documented comments on its technical review of that SOL methodology, the Reliability Coordinator that distributed that SOL Methodology shall have evidence that it provided a written response to that commenter within 45 calendar days of receipt of those comments in accordance with Requirement 5

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

Regional Reliability Organization

1.2. Compliance Monitoring Period and Reset Time Frame

Each Reliability Coordinator shall self-certify its compliance to the Compliance Monitor at least once every three years. New Reliability Authorities shall demonstrate compliance through an on-site audit conducted by the Compliance Monitor within the first year that it commences operation. The Compliance Monitor shall also conduct an on-site audit once every nine years and an investigation upon complaint to assess performance.

The Performance-Reset Period shall be twelve months from the last non-compliance.

1.3. Data Retention

The Reliability Coordinator shall keep all superseded portions to its SOL Methodology for 12 months beyond the date of the change in that methodology and shall keep all documented comments on its SOL Methodology and associated responses for three years. In addition, entities found non-compliant shall keep information related to the non-compliance until found compliant.

The Compliance Monitor shall keep the last audit and all subsequent compliance records.

1.4. Additional Compliance Information

The Reliability Coordinator shall make the following available for inspection during an on-site audit by the Compliance Monitor or within 15 business days of a request as part of an investigation upon complaint:

1.4.1 SOL Methodology.

1.4.2 Documented comments provided by a recipient of the SOL Methodology on its technical review of a SOL Methodology, and the associated responses.

1.4.3 Superseded portions of its SOL Methodology that had been made within the past 12 months.

1.4.4 Evidence that the SOL Methodology and any changes to the methodology that occurred within the past 12 months were issued to all required entities.

2. Levels of Non-Compliance for Western Interconnection: **(To be replaced with VSLs once developed and approved by WECC)**

2.1. Level 1: There shall be a level one non-compliance if either of the following conditions exists:

2.1.1 The SOL Methodology did not include a statement indicating that Facility Ratings shall not be exceeded.

2.1.2 No evidence of responses to a recipient's comments on the SOL Methodology

2.2. Level 2: The SOL Methodology did not include a requirement to address all of the elements in R3.1, R3.2, R3.4 through R3.7 and E1.

2.3. Level 3: There shall be a level three non-compliance if any of the following conditions exists:

2.3.1 The SOL Methodology did not include a statement indicating that Facility Ratings shall not be exceeded and the methodology did not include evaluation of system response to one of the three types of single Contingencies identified in R2.2.

2.3.2 The SOL Methodology did not include a statement indicating that Facility Ratings shall not be exceeded and the methodology did not include evaluation of system response to two of the seven types of multiple Contingencies identified in E1.1.

2.3.3 The System Operating Limits Methodology did not include a statement indicating that Facility Ratings shall not be exceeded and the methodology did not address two of the six required topics in R3.1, R3.2, R3.4 through R3.7.

2.4. Level 4: The SOL Methodology was not issued to all required entities in accordance with R4.

3. Violation Severity Levels:

R1	Not applicable.	The Reliability Coordinator has a documented SOL Methodology for use in developing SOLs within its Reliability Coordinator Area, but it does not address R1.2	The Reliability Coordinator has a documented SOL Methodology for use in developing SOLs within its Reliability Coordinator Area, but it does not address R1.3.	The Reliability Coordinator has a documented SOL Methodology for use in developing SOLs within its Reliability Coordinator Area, but it does not address R1.1. OR The Reliability Coordinator has no documented SOL Methodology for use in developing SOLs within its Reliability Coordinator Area.
R2	The Reliability Coordinator's SOL Methodology requires that SOLs are set to meet BES performance following single contingencies, but does not require that SOLs are set to meet BES performance in the pre-contingency state. (R2.1)	Not applicable.	The Reliability Coordinator's SOL Methodology requires that SOLs are set to meet BES performance in the pre-contingency state, but does not require that SOLs are set to meet BES performance following single contingencies. (R2.2 – R2.4)	The Reliability Coordinator's SOL Methodology does not require that SOLs are set to meet BES performance in the pre-contingency state and does not require that SOLs are set to meet BES performance following single contingencies. (R2.1 through R2.4)
R3	The Reliability Coordinator has a methodology for determining SOLs that includes a description for all but one of the following:	The Reliability Coordinator has a methodology for determining SOLs that includes a description for all but two of the following:	The Reliability Coordinator has a methodology for determining SOLs that includes a description for all but three of the following:	The Reliability Coordinator has a methodology for determining SOLs that is missing a description of three or more of the

	R3.1 through R3.7.	R3.1 through R3.7.	R3.1 through R3.7.	following: R3.1 through R3.7.
R4	One or both of the following: The Reliability Coordinator issued its SOL Methodology and changes to that methodology to all but one of the required entities. For a change in methodology, the changed methodology was provided up to 30 calendar days after the effectiveness of the change.	One of the following: The Reliability Coordinator issued its SOL Methodology and changes to that methodology to all but one of the required entities AND for a change in methodology, the changed methodology was provided 30 calendar days or more, but less than 60 calendar days after the effectiveness of the change. OR The Reliability Coordinator issued its SOL Methodology and changes to that methodology to all but two of the required entities AND for a change in methodology, the changed methodology was provided up to 30 calendar days after the effectiveness of the change.	One of the following: The Reliability Coordinator issued its SOL Methodology and changes to that methodology to all but one of the required entities AND for a change in methodology, the changed methodology was provided 60 calendar days or more, but less than 90 calendar days after the effectiveness of the change. OR The Reliability Coordinator issued its SOL Methodology and changes to that methodology to all but two of the required entities AND for a change in methodology, the changed methodology was provided 30 calendar days or more, but less than 60 calendar days after the effectiveness of the change. OR The Reliability Coordinator issued its SOL Methodology and changes to that	One of the following: The Reliability Coordinator failed to issue its SOL Methodology and changes to that methodology to more than three of the required entities. The Reliability Coordinator issued its SOL Methodology and changes to that methodology to all but one of the required entities AND for a change in methodology, the changed methodology was provided 90 calendar days or more after the effectiveness of the change. OR The Reliability Coordinator issued its SOL Methodology and changes to that methodology to all but two of the required entities AND for a change in methodology, the changed methodology was provided 60 calendar days or more, but less than 90 calendar days after the effectiveness

			methodology to all but three of the required entities AND for a change in methodology, the changed methodology was provided up to 30 calendar days after the effectiveness of the change.	of the change. OR The Reliability Coordinator issued its SOL Methodology and changes to that methodology to all but three of the required entities AND for a change in methodology, the changed methodology was provided 30 calendar days or more, but less than 60 calendar days after the effectiveness of the change. OR The Reliability Coordinator issued its SOL Methodology and changes to that methodology to all but four of the required entities AND for a change in methodology, the changed methodology was provided up to 30 calendar days after the effectiveness of the change.
R5	The Reliability Coordinator received documented technical comments on its SOL Methodology and provided a complete response in a time period	The Reliability Coordinator received documented technical comments on its SOL Methodology and provided a complete response in a time period	The Reliability Coordinator received documented technical comments on its SOL Methodology and provided a complete response in a time period	The Reliability Coordinator received documented technical comments on its SOL Methodology and provided a complete response in a time period

	that was longer than 45 calendar days but less than 60 calendar days.	that was 60 calendar days or longer but less than 75 calendar days.	that was 75 calendar days or longer but less than 90 calendar days. OR The Reliability Coordinator's response to documented technical comments on its SOL Methodology indicated that a change will not be made, but did not include an explanation of why the change will not be made.	that was 90 calendar days or longer. OR The Reliability Coordinator's response to documented technical comments on its SOL Methodology did not indicate whether a change will be made to the SOL Methodology.

Regional Differences

1. The following Interconnection-wide Regional Difference shall be applicable in the Western Interconnection:

1.1. As governed by the requirements of R3.3, starting with all Facilities in service, shall require the evaluation of the following multiple Facility Contingencies when establishing SOLs:

1.1.1 Simultaneous permanent phase to ground Faults on different phases of each of two adjacent transmission circuits on a multiple circuit tower, with Normal Clearing. If multiple circuit towers are used only for station entrance and exit purposes, and if they do not exceed five towers at each station, then this condition is an acceptable risk and therefore can be excluded.

1.1.2 A permanent phase to ground Fault on any generator, transmission circuit, transformer, or bus section with Delayed Fault Clearing except for bus sectionalizing breakers or bus-tie breakers addressed in E1.1.7

1.1.3 Simultaneous permanent loss of both poles of a direct current bipolar Facility without an alternating current Fault.

1.1.4 The failure of a circuit breaker associated with a Special Protection System to operate when required following: the loss of any element without a Fault; or a permanent phase to ground Fault, with Normal Clearing, on any transmission circuit, transformer or bus section.

1.1.5 A non-three phase Fault with Normal Clearing on common mode Contingency of two adjacent circuits on separate towers unless the event frequency is determined to be less than one in thirty years.

1.1.6 A common mode outage of two generating units connected to the same switchyard, not otherwise addressed by FAC-011.

1.1.7 The loss of multiple bus sections as a result of failure or delayed clearing of a bus tie or bus sectionalizing breaker to clear a permanent Phase to Ground Fault.

1.2. SOLs shall be established such that for multiple Facility Contingencies in E1.1.1 through E1.1.5 operation within the SOL shall provide system performance consistent with the following:

1.2.1 All Facilities are operating within their applicable Post-Contingency thermal, frequency and voltage limits.

1.2.2 Cascading does not occur.

1.2.3 Uncontrolled separation of the system does not occur.

1.2.4 The system demonstrates transient, dynamic and voltage stability.

1.2.5 Depending on system design and expected system impacts, the controlled interruption of electric supply to customers (load shedding), the planned

removal from service of certain generators, and/or the curtailment of contracted firm (non-recallable reserved) electric power transfers may be necessary to maintain the overall security of the interconnected transmission systems.

1.2.6 Interruption of firm transfer, Load or system reconfiguration is permitted through manual or automatic control or protection actions.

1.2.7 To prepare for the next Contingency, system adjustments are permitted, including changes to generation, Load and the transmission system topology when determining limits.

1.3. SOLs shall be established such that for multiple Facility Contingencies in E1.1.6 through E1.1.7 operation within the SOL shall provide system performance consistent with the following with respect to impacts on other systems:

1.3.1 Cascading does not occur.

1.4. The Western Interconnection may make changes (performance category adjustments) to the Contingencies required to be studied and/or the required responses to Contingencies for specific facilities based on actual system performance and robust design. Such changes will apply in determining SOLs.

Version History

Version	Date	Action	Change Tracking
1	November 1, 2006	Adopted by Board of Trustees	New
2		Changed the effective date to October 1, 2008 Changed “Cascading Outage” to “Cascading” Replaced Levels of Non-compliance with Violation Severity Levels Corrected footnote 1 to reference FAC-011 rather than FAC-010	Revised

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Project 2008-04 — Revisions to FAC-010, FAC-011, and FAC-014

Standard Development Roadmap

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed:

SAR posted for comment with draft standard for 45-day comment period from January 21–March 5, 2008.

Second draft of SAR and proposed changes to standards posted for a 30-day comment period from March 31–April 29, 2008.

Posted for 30-day pre-ballot review from May 2–31, 2008.

Initial ballot conducted from June 2–11, 2008.

Proposed Action Plan and Description of Current Draft:

This is the fourth draft of the standard, posted for recirculation ballot.

Future Development Plan:

Anticipated Actions	Anticipated Date
1. Post response to comments on initial ballot.	June 13, 2008
2. Conduct recirculation ballot.	June 13–22, 2008
3. Board adoption.	June 26, 2008
4. Submit to regulatory authorities for approval.	June 30, 2008

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these defined terms will be removed from the individual standard and added to the Glossary.

None.

A. Introduction

1. **Title:** **Establish and Communicate System Operating Limits**

2. **Number:** FAC-014-2

3. **Purpose:** To ensure that System Operating Limits (SOLs) used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.

4. **Applicability**

   4.1. Reliability Coordinator

   4.2. Planning Authority

   4.3. Transmission Planner

   4.4. Transmission Operator

5. **Effective Date:** January 1, 2009

B. Requirements

R1. The Reliability Coordinator shall ensure that SOLs, including Interconnection Reliability Operating Limits (IROLs), for its Reliability Coordinator Area are established and that the SOLs (including Interconnection Reliability Operating Limits) are consistent with its SOL Methodology.

R2. The Transmission Operator shall establish SOLs (as directed by its Reliability Coordinator) for its portion of the Reliability Coordinator Area that are consistent with its Reliability Coordinator's SOL Methodology.

R3. The Planning Authority shall establish SOLs, including IROLs, for its Planning Authority Area that are consistent with its SOL Methodology.

R4. The Transmission Planner shall establish SOLs, including IROLs, for its Transmission Planning Area that are consistent with its Planning Authority's SOL Methodology.

R5. The Reliability Coordinator, Planning Authority and Transmission Planner shall each provide its SOLs and IROLs to those entities that have a reliability-related need for those limits and provide a written request that includes a schedule for delivery of those limits as follows:

R5.1. The Reliability Coordinator shall provide its SOLs (including the subset of SOLs that are IROLs) to adjacent Reliability Coordinators and Reliability Coordinators who indicate a reliability-related need for those limits, and to the Transmission Operators, Transmission Planners, Transmission Service Providers and Planning Authorities within its Reliability Coordinator Area. For each IROL, the Reliability Coordinator shall provide the following supporting information:

R5.1.1. Identification and status of the associated Facility (or group of Facilities) that is (are) critical to the derivation of the IROL.

R5.1.2. The value of the IROL and its associated T_v.

R5.1.3. The associated Contingency(ies).

R5.1.4. The type of limitation represented by the IROL (e.g., voltage collapse, angular stability).

R5.2. The Transmission Operator shall provide any SOLs it developed to its Reliability Coordinator and to the Transmission Service Providers that share its portion of the Reliability Coordinator Area.

R5.3. The Planning Authority shall provide its SOLs (including the subset of SOLs that are IROLs) to adjacent Planning Authorities, and to Transmission Planners, Transmission Service Providers, Transmission Operators and Reliability Coordinators that work within its Planning Authority Area.

R5.4. The Transmission Planner shall provide its SOLs (including the subset of SOLs that are IROLs) to its Planning Authority, Reliability Coordinators, Transmission Operators, and Transmission Service Providers that work within its Transmission Planning Area and to adjacent Transmission Planners.

R6. The Planning Authority shall identify the subset of multiple contingencies (if any), from Reliability Standard TPL-003 which result in stability limits.

R6.1. The Planning Authority shall provide this list of multiple contingencies and the associated stability limits to the Reliability Coordinators that monitor the facilities associated with these contingencies and limits.

R6.2. If the Planning Authority does not identify any stability-related multiple contingencies, the Planning Authority shall so notify the Reliability Coordinator.

C. Measures

M1. The Reliability Coordinator, Planning Authority, Transmission Operator, and Transmission Planner shall each be able to demonstrate that it developed its SOLs (including the subset of SOLs that are IROLs) consistent with the applicable SOL Methodology in accordance with Requirements 1 through 4.

M2. The Reliability Coordinator, Planning Authority, Transmission Operator, and Transmission Planner shall each have evidence that its SOLs (including the subset of SOLs that are IROLs) were supplied in accordance with schedules supplied by the requestors of such SOLs as specified in Requirement 5.

M3. The Planning Authority shall have evidence it identified a list of multiple contingencies (if any) and their associated stability limits and provided the list and the limits to its Reliability Coordinators in accordance with Requirement 6.

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

Regional Reliability Organization

1.2. Compliance Monitoring Period and Reset Time Frame

The Reliability Coordinator, Planning Authority, Transmission Operator, and Transmission Planner shall each verify compliance through self-certification submitted to its Compliance Monitor annually. The Compliance Monitor may conduct a targeted audit once in each calendar year (January – December) and an investigation upon a complaint to assess performance.

The Performance-Reset Period shall be twelve months from the last finding of non-compliance.

1.3. Data Retention

The Reliability Coordinator, Planning Authority, Transmission Operator, and Transmission Planner shall each keep documentation for 12 months. In addition, entities found non-compliant shall keep information related to non-compliance until found compliant.

The Compliance Monitor shall keep the last audit and all subsequent compliance records.

1.4. Additional Compliance Information

The Reliability Coordinator, Planning Authority, Transmission Operator, and Transmission Planner shall each make the following available for inspection during a targeted audit by the Compliance Monitor or within 15 business days of a request as part of an investigation upon complaint:

1.4.1 SOL Methodology(ies)

1.4.2 SOLs, including the subset of SOLs that are IROLs and the IROLs supporting information

1.4.3 Evidence that SOLs were distributed

1.4.4 Evidence that a list of stability-related multiple contingencies and their associated limits were distributed

1.4.5 Distribution schedules provided by entities that requested SOLs

2. Violation Severity Levels:

R1	There are SOLs, for the Reliability Coordinator Area, but from 1% up to but less than 25% of these SOLs are inconsistent with the Reliability Coordinator's SOL Methodology. (R1)	There are SOLs, for the Reliability Coordinator Area, but 25% or more, but less than 50% of these SOLs are inconsistent with the Reliability Coordinator's SOL Methodology. (R1)	There are SOLs, for the Reliability Coordinator Area, but 50% or more, but less than 75% of these SOLs are inconsistent with the Reliability Coordinator's SOL Methodology. (R1)	There are SOLs for the Reliability Coordinator Area, but 75% or more of these SOLs are inconsistent with the Reliability Coordinator's SOL Methodology. (R1)
R2	The Transmission Operator has established SOLs for its portion of the Reliability Coordinator Area, but from 1% up to but less than 25% of these SOLs are inconsistent with the Reliability Coordinator's SOL Methodology. (R2)	The Transmission Operator has established SOLs for its portion of the Reliability Coordinator Area, but 25% or more, but less than 50% of these SOLs are inconsistent with the Reliability Coordinator's SOL Methodology. (R2)	The Transmission Operator has established SOLs for its portion of the Reliability Coordinator Area, but 50% or more, but less than 75% of these SOLs are inconsistent with the Reliability Coordinator's SOL Methodology. (R2)	The Transmission Operator has established SOLs for its portion of the Reliability Coordinator Area, but 75% or more of these SOLs are inconsistent with the Reliability Coordinator's SOL Methodology. (R2)
R3	There are SOLs, for the Planning Coordinator Area, but from 1% up to, but less than, 25% of these SOLs are inconsistent with the Planning Coordinator's SOL Methodology. (R3)	There are SOLs, for the Planning Coordinator Area, but 25% or more, but less than 50% of these SOLs are inconsistent with the Planning Coordinator's SOL Methodology. (R3)	There are SOLs for the Planning Coordinator Area, but 50% or more, but less than 75% of these SOLs are inconsistent with the Planning Coordinator's SOL Methodology. (R3)	There are SOLs, for the Planning Coordinator Area, but 75% or more of these SOLs are inconsistent with the Planning Coordinator's SOL Methodology. (R3)
R4	The Transmission Planner has established SOLs for its portion of the Planning Coordinator Area, but up	The Transmission Planner has established SOLs for its portion of the Planning Coordinator Area, but 25%	The Transmission Planner has established SOLs for its portion of the Reliability Coordinator	The Transmission Planner has established SOLs for its portion of the Planning Coordinator Area, but 75%

	to 25% of these SOLs are inconsistent with the Planning Coordinator's SOL Methodology. (R4)	or more, but less than 50% of these SOLs are inconsistent with the Planning Coordinator's SOL Methodology. (R4)	Area, but 50% or more, but less than 75% of these SOLs are inconsistent with the Planning Coordinator's SOL Methodology. (R4)	or more of these SOLs are inconsistent with the Planning Coordinator's SOL Methodology. (R4)
R5	The responsible entity provided its SOLs (including the subset of SOLs that are IROLs) to all the requesting entities but missed meeting one or more of the schedules by less than 15 calendar days. (R5)	One of the following: The responsible entity provided its SOLs (including the subset of SOLs that are IROLs) to all but one of the requesting entities within the schedules provided. (R5) Or The responsible entity provided its SOLs to all the requesting entities but missed meeting one or more of the schedules for 15 or more but less than 30 calendar days. (R5) OR The supporting information provided with the IROLs does not address 5.1.4	One of the following: The responsible entity provided its SOLs (including the subset of SOLs that are IROLs) to all but two of the requesting entities within the schedules provided. (R5) Or The responsible entity provided its SOLs to all the requesting entities but missed meeting one or more of the schedules for 30 or more but less than 45 calendar days. (R5) OR The supporting information provided with the IROLs does not address 5.1.3	One of the following: The responsible entity failed to provide its SOLs (including the subset of SOLs that are IROLs) to more than two of the requesting entities within 45 calendar days of the associated schedules. (R5) OR The supporting information provided with the IROLs does not address 5.1.1 and 5.1.2.

R6	The Planning Authority failed to notify the Reliability Coordinator in accordance with R6.2	Not applicable.	The Planning Authority identified the subset of multiple contingencies which result in stability limits **but** did not provide the list of multiple contingencies and associated limits to one Reliability Coordinator that monitors the Facilities associated with these limits. (R6.1)	The Planning Authority did not identify the subset of multiple contingencies which result in stability limits. (R6) OR The Planning Authority identified the subset of multiple contingencies which result in stability limits **but** did not provide the list of multiple contingencies and associated limits to more than one Reliability Coordinator that monitors the Facilities associated with these limits. (R6.1)

E. Regional Differences

None identified.

Version History

Version	Date	Action	Change Tracking
1	November 1, 2006	Adopted by Board of Trustees	New
2		Changed the effective date to January 1, 2009 Replaced Levels of Non-compliance with Violation Severity Levels	Revised

Exhibit B

Rationale for Assignment of Violation Severity Levels

Violation severity levels categorize noncompliant performance, with up to four levels identified for each requirement. The standard drafting team for the proposed standards used the following criteria when it proposed violation severity levels:

a) "Lower" Violation Severity Level - noncompliant performance that is missing one minor[10] element (or a small percentage) of the required performance – the performance or product measured is missing a minor element – the performance or product measured has significant value as it almost meets the full intent of the requirement.

b) "Moderate" Violation Severity Level - noncompliant performance that is missing at least one significant[11] element (or a moderate percentage) of the required performance – the performance or product measured still has significant value in meeting the intent of the requirement.

c) "High" Violation Severity Level - noncompliant performance that is missing more than one significant[12] element (or a high percentage) of the required performance or is missing a single vital component – the performance or product measured meets at least one significant element of the performance or product, but has limited value in meeting the intent of the requirement.

d) "Severe" Violation Severity Level - noncompliant performance that is missing most or all of the significant[13] elements (or a significant percentage) of the required performance – the performance measured does not meet the intent of the requirement or the product delivered cannot be used in meeting the intent of the requirement.

Violation Severity Levels for FAC-010-2

FAC-010-2 has five requirements.

Requirement R1 - The first requirement is for the planning authority to have a methodology for use in developing system operating limits ("SOLs") for use in its planning authority area. There are three sub-requirements that identify elements that must be included in the methodology:

1) The methodology must be applicable for use in the planning horizon;
2) The methodology must include a statement that SOLs cannot exceed their associated facility ratings; and
3) The methodology must describe how to identify which SOLs are also Interconnection Reliability Operating Limits ("IROLs").

[10] The terms "minor" and "significant" are explained in detail in the discussion accompanying each requirement. Therefore, while subjective in and of themselves, the context provided supports how the terms are defined with respect to the Violation Severity Levels assigned.
[11] *Id.*
[12] *Id.*
[13] *Id.*

The three sub-requirements do not contribute equally to the requirement to have a methodology, and the Violation Severity Levels reflect this uneven weighting as follows:

- If the methodology does not include a statement that the SOLs cannot exceed their associated facility ratings, the methodology could still be used, but it would be missing a significant element – missing this sub-requirement is a "Moderate" Violation Severity Level
- If the methodology does not include a description of how to identify which SOLs are IROLs, then the methodology is missing a vital element that makes the resultant methodology serious flawed – missing this sub-requirement is a "High" Violation Severity Level
- If the methodology is not applicable for use in the planning horizon it cannot be used by the planning authority – missing this sub-requirement is a "Severe" Violation Severity Level
- If there is no methodology, then missing this sub-requirement is a "Severe" Violation Severity Level

Requirement R2 – The second requirement is aimed at ensuring the planning authority's SOL methodology includes a requirement that SOLs provide bulk power system performance that meets defined criteria in various states:

1) Pre-contingency;
2) Immediately following a single contingency and during the adjustment period following a single contingency; and
3) Immediately following multiple contingencies, and during the adjustment period immediately following a multiple contingency.

The sub-requirements do not contribute equally to the requirement to address system performance in the SOL methodology, and the Violation Severity Levels reflect this uneven weighting as follows:

- If the methodology is complete with the exception of addressing the pre-contingency state, then the methodology would still be useful since the pre-contingency state rarely occurs and there are other standards that require studies of the pre-contingency state; therefore, this requirement is assigned a "Lower" Violation Severity Level
- If the methodology is complete with the exception of addressing multiple contingences, then the methodology is still useful, but it is missing a serious element and the requirement is assigned a "Moderate" Violation Severity Level
- If the methodology is complete with the exception of addressing single contingencies, then the methodology is seriously flawed as single contingencies are the most frequently occurring type of contingency, and therefore, the requirement is assigned a "High" Violation Severity Level
- If the methodology is missing both the system response to single contingencies and multiple contingencies, then the methodology misses almost the full intent of

the requirement and the requirement is assigned a “Severe” Violation Severity Level

- If the methodology does not address bulk power system performance at all, then this requirement is assigned a “Severe” VSL

Requirement R3 – The third requirement lists some special topics for inclusion in the methodology. The topics include:

1) Size of the study model;
2) Selection of contingencies;
3) Level of model detail for models used to determine SOLs;
4) Allowed uses of special protection systems;
5) Anticipated transmission system configuration, generation dispatch and Load level; and
6) Criteria for determining when violating a SOL qualifies as an IROL and criteria for developing any associated IROL T_v.

All of these elements are of near equal importance.

- Missing one element is therefore assigned a “Lower” Violation Severity Level
- Missing two elements is assigned a “Moderate” Violation Severity Level
- Missing three elements is assigned “High” Violation Severity Level
- Missing more than three elements is assigned a “Severe” Violation Severity Level

Requirement R4 – The fourth requirement is aimed at ensuring that the entities that need the planning authority’s SOL methodology receive that methodology and any changes to the methodology before the changes become effective. There are three sub-requirements:

1) The methodology must be distributed to other planning authorities;
2) The methodology must be distributed to the reliability coordinators and transmission operators that operate in the planning authority’s area; and
3) The methodology must be distributed to the transmission planners that work in the planning authority’s area.

The intent of the requirement is to distribute the methodology to all required entities on time – with distribution to each of the required entities of equal weight in contributing to the intent of the requirement.

The Violation Severity Levels address whether the planning authority distributed its methodology to all required entities and address the timeliness of the distribution. As the planning authority’s distribution involves fewer entities, and as the distribution becomes tardier, the less the performance meets the intent of the requirement.

The “Lower” Violation Severity Level addresses a variety of possible noncompliant performance:

- The methodology wasn't sent to one of the required entities;
- The methodology was distributed up to 30 days late; or
- The methodology wasn't sent to one of the required entities and it was distributed up to 30 days late.

The "Moderate" Violation Severity Level addresses a variety of noncompliant performance:

- The methodology wasn't sent to one of the required entities and it was 30 – 60 days late; and
- The methodology wasn't sent to two of the required entities and it was distributed up to 30 days late.

The "High" Violation Severity Level addresses a variety of noncompliant performance:

- The methodology wasn't sent to one of the required entities and it was distributed up to 60 – 90 days late;
- The methodology wasn't sent to two of the required entities and it was distributed up to 30 – 60 days late; or
- The methodology wasn't sent to two of the required entities and it was distributed up to 30 days late.

The "Severe" Violation Severity Level addresses a variety of noncompliant performance:

- The methodology wasn't sent to more than three of the required entities;
- The methodology wasn't sent to one of the required entities and it was distributed more than 90 days late;
- The methodology wasn't sent to two of the required entities and it was distributed up to 60 – 90 days late;
- The methodology wasn't sent to three of the required entities and it was distributed up to 30 - 60 days late; or
- The methodology wasn't sent to four of the required entities and it was distributed up to 30 days late.

Requirement R5 – The fifth requirement forces the planning authority to address peers' technical comments on its SOL methodology. The intent of this requirement is to ensure that the planning authority makes a prompt review of these technical comments and is forced to document any decision made regarding a change to its SOL methodology. The concept is to use peer pressure to motivate an entity to correct any errors in its methodology.

There are three components associated with meeting the intent of the requirement:

1) The planning authority provided a response;
2) The response was provided in a timely manner; and
3) The response indicated whether the methodology will be changed.

The three components do not contribute equally in meeting the intent of the requirement, as reflected in the Violation Severity Levels:

- If the planning authority provided a complete response, but the response was up to 15 days late, then the Violation Severity Level is "Lower." If there was a technical issue with the methodology, then there is a commitment to change the methodology and the intent of the requirement has been mostly met.
- If the planning authority provided a complete response, but the response was 15 – 30 days late, then the intent of the requirement has been partially met – but the longer the methodology remains inaccurate, the farther off the entity is from meeting the intent of the requirement and the Violation Severity Level is "Moderate."
- If the planning authority provided a complete response, but the response was 30 – 45 days late, then the intent of the requirement has been partially met – but the longer the methodology remains inaccurate, the farther off the entity is from meeting the intent of the requirement and the Violation Severity Level is "High."
- If the planning authority provided a response that indicated it was not making a change but provided no reason for the response, then the Violation Severity Level is "High" since there is no assurance that the methodology in use is correct.
- If the planning authority provided a response, but the response was more than 45 days late, then the response is so late that it seriously impacts achievement of the intent of the requirement, and the Violation Severity Level is "Severe."
- If the planning authority provided a response, but did not indicate whether it would change its methodology, then the planning authority did not meet the intent of the requirement at all, and the Violation Severity Level is "Severe."

Violation Severity Levels for FAC-011-2

FAC-011-2 has five requirements.

Requirement R1 - The first requirement is for the reliability coordinator to have a methodology for use in developing SOLs for use in its reliability coordinator area. There are three sub-requirements that identify elements that must be included in the methodology:

1) The methodology must be applicable for use in the operations horizon;
2) The methodology must include a statement that SOLs cannot exceed their associated facility ratings; and
3) The methodology must describe how to identify which SOLs are also IROLs.

The three sub-requirements do not contribute equally to the requirement to have a methodology, and the Violation Severity Levels reflect this uneven weighting as follows:

- If the methodology is not applicable for use in the operations horizon it cannot be used by the reliability coordinator – missing this sub-requirement is assigned a "Severe" Violation Severity Level.

- If the methodology does not include a statement that the SOLs cannot exceed their associated facility ratings, the methodology could still be used, but it would be missing a significant element – missing this sub-requirement is assigned a "Moderate" Violation Severity Level.
- If the methodology does not include a description of how to identify which SOLs are IROLs, then the methodology is missing a vital element that makes the resultant methodology serious flawed – missing this sub-requirement is assigned a "High" Violation Severity Level.
- If there is no methodology, then this is assigned a "Severe" Violation Severity Level.

Requirement R2 – The second requirement is aimed at ensuring the reliability coordinator's SOL methodology includes a requirement that SOLs provide bulk power system performance that meets defined criteria in various states

1) Pre-contingency
2) Immediately following a single contingency and during the adjustment period following a single contingency

The sub-requirements do not contribute equally to the requirement to address system performance in the SOL methodology and the Violation Severity Levels reflect this uneven weighting as follows:

- If the methodology is complete with the exception of addressing the pre-contingency state, then the methodology would still be useful since the pre-contingency state rarely occurs and there are other standards that require studies of the pre-contingency state and therefore the Violation Severity Level assigned is "Lower."
- If the methodology is missing the system response to single contingencies but does address the system during the adjustment period following the single contingency, then the methodology has only limited value since single contingencies are the most frequently occurring type of contingency, and the Violation Severity Level is assigned to be "High."
- If the methodology does not address bulk electric system performance in either the pre-contingency state or following a single contingency and its adjustment period, then the assigned Violation Severity Level is "Severe."

Requirement R3 – The third requirement lists some special topics for inclusion in the methodology. The topics include:

1) Size of the study model;
2) Selection of contingencies;
3) Process for identifying applicable stability-related multiple contingencies;
4) Level of model detail for models used to determine SOLs;
5) Allowed uses of special protection systems;

6) Anticipated transmission system configuration, generation dispatch and Load level; and

7) Criteria for determining when violating a SOL qualifies as an IROL and criteria for developing any associated IROL T_v.

All of these elements are of near equal importance.

- Missing one element is assigned a "Lower" Violation Severity Level
- Missing two elements is assigned a "Moderate" Violation Severity Level
- Missing three elements is assigned a "High" Violation Severity Level
- Missing more than three elements is assigned a "Severe" Violation Severity Level

Requirement R4 – The fourth requirement is aimed at ensuring that the entities that need the reliability coordinator's SOL methodology receive that methodology and any changes to the methodology before the changes become effective. There are three sub-requirements:

1) The methodology must be distributed to other reliability coordinators;

2) The methodology must be distributed to the planning authorities and transmission planners that model any portion of the reliability coordinator's area; and

3) The methodology must be distributed to the transmission operators that operate in the reliability coordinator' area.

The intent of the requirement is to distribute the methodology to all required entities on time – with distribution to each of the required entities of equal weight in contributing to the intent of the requirement.

The Violation Severity Levels address whether the reliability coordinator distributed its methodology to all required entities and address the timeliness of the distribution. As the reliability coordinator's distribution involves fewer entities, and as the distribution becomes tardier, the less the performance meets the intent of the requirement.

The "Lower" Violation Severity Level addresses a variety of possible noncompliant performance:

- The methodology wasn't sent to one of the required entities;
- The methodology was distributed up to 30 days late, or
- The methodology wasn't sent to one of the required entities and it was distributed up to 30 days late.

The "Moderate" Violation Severity Level addresses a variety of noncompliant performance:

- The methodology wasn't sent to one of the required entities and it was 30 – 60 days late.
- The methodology wasn't sent to two of the required entities and it was distributed up to 30 days late.

The "High" Violation Severity Level addresses a variety of noncompliant performance:

- The methodology wasn't sent to one of the required entities and it was distributed up to 60 – 90 days late.
- The methodology wasn't sent to two of the required entities and it was distributed up to 30 – 60 days late.
- The methodology wasn't sent to two of the required entities and it was distributed up to 30 days late.

The "Severe" Violation Severity Level addresses a variety of noncompliant performance:

- The methodology wasn't sent to more than three of the required entities.
- The methodology wasn't sent to one of the required entities and it was distributed more than 90 days late.
- The methodology wasn't sent to two of the required entities and it was distributed up to 60 – 90 days late.
- The methodology wasn't sent to three of the required entities and it was distributed up to 30 – 60 days late.
- The methodology wasn't sent to four of the required entities and it was distributed up to 30 days late.

Requirement R5 – The fifth requirement forces the reliability coordinator to address peers' technical comments on its SOL methodology. The intent of this requirement is to ensure that the reliability coordinator makes a prompt review of these technical comments and is forced to document any decision made regarding a change to its SOL methodology. The concept is to use peer pressure to motivate an entity to correct any errors in its methodology. There are three components associated with meeting the intent of the requirement addressed in the Violation Severity Levels:

1) The reliability coordinator provided a response;
2) The response was provided in a timely manner; and
3) The response indicated whether the methodology was changed.

The three components do not contribute equally in meeting the intent of the requirement, and this is reflected in the Violation Severity Levels:

- If the reliability coordinator provided a complete response, but the response was up to 15 days late, then the assigned Violation Severity Level is "Lower." If there was a technical issue with the methodology, and there is a commitment to change the methodology then the intent of the requirement has been mostly met.
- If the reliability coordinator provided a complete response, but the response was 15 – 30 days late, then the intent of the requirement has been partially met – but the longer the methodology remains inaccurate, the farther off the entity is from meeting the intent of the requirement and the assigned Violation Severity Level is "Moderate."
- If the reliability coordinator provided a complete response, but the response was 30 – 45 days late, then the intent of the requirement has been partially met – but the longer the methodology remains inaccurate, the farther off the entity is from

meeting the intent of the requirement and the assigned Violation Severity Level is "High."

- If the reliability coordinator provided a response that indicated it was not making a change, but provided no reason for the response, then the assigned Violation Severity Level is "High" since there is no assurance that the methodology in use is correct.
- If the reliability coordinator provided a response, but the response was more than 45 days late, then the response is so late that it seriously impacts achievement of the objective of the requirement, and the assigned Violation Severity Level is "Severe."
- If the reliability coordinator provided a response, but did not indicate whether it would change its methodology, then the reliability coordinator did not meet the intent of the requirement at all, and the assigned Violation Severity Level is "Severe."

Violation Severity Levels for FAC-014-2

FAC-014-2 has six requirements.

Requirements R1-R4 - The first four requirements are aimed at ensuring that the SOLs that are developed are consistent with the applicable SOL methodology. For each of these requirements the total number of SOLs can be quite large, and is not the same for every entity. The drafting team defaulted to using the percent of SOLs that are inconsistent with the SOL methodology as the criteria for the Violation Severity Levels:

- 25% of the SOLs inconsistent with the methodology is a "Lower" Violation Severity Level
- 25 – 50% of the SOLs inconsistent with the methodology is a "Moderate" Violation Severity Level
- 50-75% of the SOLs inconsistent with the methodology is a "High" Violation Severity Level
- More than 75% of the SOLs inconsistent with the methodology is a "Severe" Violation Severity Level

Requirement R5 - The fifth requirement forces the responsible entity to distribute its SOLs to all of the entities that have requested them, in accordance with schedules.

If the responsible entity is the reliability coordinator, there are additional sub-requirements that detail information the reliability coordinator must provide for each IROL. There are four components to the supporting information, and these components do not contribute equally to meeting the intent of the requirement.

1) Identification of the facility critical to the IROL
2) The value of the IROL and its T_v
3) The associated contingency or contingencies
4) The type of limit

The Violation Severity Levels address the responsible entity's timeliness in distributing the SOLs, whether the responsible entity distributed the SOLs to all requesting entities, and for the reliability coordinator, whether it provided the information associated with each IROL.

The timeliness aspect of the requirement has Violation Severity Levels separated by half-monthly increments as follows:

- Distribution of SOLs up to 15 days late is a "lower" Violation Severity Level.
- Distribution of SOLs from 15 – 30 days late is a "Moderate" Violation Severity Level.
- Distribution from 30 – 45 days late is a "High" Violation Severity Level.
- Distribution more than 45 days late is a "Severe" Violation Severity Level.

The completeness of delivering the SOLs to all requesting entities was addressed by separating the Violation Severity Levels according to the number of deliveries that were not made:

- Failure to deliver the SOLs to one entity is missing a significant element of this requirement and this is assigned a "Moderate" Violation Severity Level.
- Failure to deliver the SOLs to two entities is missing more than one significant element of this requirement and this is assigned a "High" Violation Severity Level.

If the compliance enforcement authority asks for evidence that the SOLs were delivered to all requesting entities, and there is no evidence, then this is already assigned a "Severe" Violation Severity Level for failure to meet the timeliness aspect of this requirement – so there is no separate "Severe" Violation Severity Level for failure to deliver the SOLs to more than two requesting entities.

The reliability coordinator's requirement to distribute additional information for IROLs is addressed by Violation Severity Levels as follows:

- If the reliability coordinator fails to provide the 'type of limit' but provides the other information about an IROL, then the recipient has sufficient information to identify the IROL, but by not providing the type of limit, the recipient is missing a piece of information that could assist in making operating plans, and this is assigned a "Moderate" Violation Severity Level.

- If the reliability coordinator fails to identify the contingencies associated with the VSL, but provides the other information about an IROL, then the recipient knows the value of the limit, but does not necessarily know what contingency will cause the limit to be exceeded, which is assigned a "High" Violation Severity Level.

- If the reliability coordinator does not identification the facility associated with the IROL, or fails to identify the IROLs and its T_v, then the information provided is so lacking that the intent of the requirement has not been met and this is assigned a "Severe" Violation Severity Level.

Requirement R6 – This requirement is aimed at ensuring that the planning authority identifies and provides any stability-related multiple contingencies it has identified to reliability coordinators that monitor the associated facilities so that those reliability coordinators have this information.

There are two sub-requirements and they are not of equal weight in contributing to the intent of the requirement:

1) To provide the list of multiple contingencies and their associated stability-related limits to all reliability coordinators that monitor the associated facilities.
2) To notify the reliability coordinators if there aren't any stability-related multiple contingencies.

The Violation Severity Levels address whether the planning authority identified the list of stability-related multiple contingencies, whether the planning authority provided the list to all of the reliability coordinators that monitor the associated facilities, and address whether planning coordinator notified reliability coordinators if no stability-related multiple contingencies were identified.

- A failure to notify the reliability coordinators that it did not identify any stability-related multiple contingencies would not seriously impact the intent of this requirement and this is assigned a "Lower" Violation Severity Level.

- A failure to provide the list of stability-related multiple contingencies to one of the reliability coordinators that monitors the facilities is a serious omission, and this is assigned a "High" Violation Severity Level.

- A failure to identify the stability-related multiple contingencies is a total failure in meeting the intent of this requirement, and this is assigned a "Severe" Violation Severity Level.

- If the planning authority fails to distribute the list of stability-related multiple contingencies to more than one of the reliability coordinators, then the intent of this requirement is so seriously missed that this is assigned a "Severe" Violation Severity Level.

Exhibit C

Standard Drafting Team Roster

Facility Ratings Standard Drafting Team

Project 2006-09 — FRSDT

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Exhibit D

Record of Development of Proposed Reliability Standards

(Available Upon Request)