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## **Prerequisite Approvals**

There are no other Reliability Standards or Standard Authorization Requests (SARs), in progress or approved, that must be implemented before this set of standards can be implemented.

## **Retirement of Sections of Version 0 Standards**

Several requirements contained in the proposed set of Standards address the same or similar performance objectives as sections of Version 0 Standards FAC-004, FAC-005 and TOP-004. To eliminate duplication and minimize confusion, the following Version 0 Requirements and associated Measures should be retired when this set of proposed standards is adopted. Justification for these retirements is provided in the tables on the following pages.

TOP-004      Transmission Security

- Retire the following requirements coincident with the implementation of FAC-011:
  - R6.1
  - R6.5

Note that if the proposed standards are approved and adopted, then the following Version 0 Definitions will also be replaced:

- Cascading
- Interconnection Reliability Operating Limit (IROL)

TOP-004-0	FAC-011-1
<p><b>R 6.</b> Transmission Operators, individually and jointly with other Transmission Operators, shall develop, maintain, and implement formal policies and procedures to provide for transmission reliability. These policies and procedures shall address the execution and coordination of activities that impact inter- and intra-Regional reliability, including:</p> <p><del>R 6.1. Equipment ratings.</del></p> <p><b>R 6.21.</b> Monitoring and controlling voltage levels and real and reactive power flows.</p> <p><b>R 6.32.</b> Switching transmission elements.</p> <p><b>R 6.43.</b> Planned outages of transmission elements.</p> <p><del>R 6.5. Development of IROLs and SOLs.</del></p> <p><b>R.6.64.</b> Responding to IROL and SOL violations.</p>	<p><b>R1.</b> 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.</p> <p><b>R2.</b> 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.</p> <p><b>R5.</b> 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:</p> <p><b>R5.1</b> 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 Service Providers and Planning Authorities within its Reliability Coordinator Area. For each IROL, the Reliability Coordinator shall provide the following supporting information:</p> <p><b>R5.1.1</b> Identification and status of the associated Facility (or group of Facilities) that is (are) critical to the derivation of the IROL.</p> <p><b>R5.1.2</b> The value of the IROL and its associated <math>T_v</math>.</p> <p><b>R5.1.3</b> The associated Contingency(ies).</p> <p><b>R5.1.4</b> The type of limitation represented by the IROL (e.g., voltage collapse, angular stability).</p> <p><b>R5.2</b> 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.</p>

**Comparison of V0 to V1:**

- TOP-004 Requirement 6.1 requires the TOP to develop policies and procedures that address the execution and coordination of equipment ratings. However, under the Functional Model, the Transmission Owner is not responsible for establishing equipment ratings or for distributing those ratings. The Functional Model clearly assigns responsibility for establishing Facility Ratings to the Facility Owners – and Facility Ratings are derived from equipment ratings. Assuming that Requirement 6.1 is requiring the sharing of these ratings, R6.1 is replaced with FAC-009 which requires the Facility Owner to share its Facility Ratings with other entities that have a reliability-related need for those ratings, which includes RCs and TOPs.
- The need to document the methodology used to develop SOLs (as well as the subset of SOLs that are classified as IROLs) used in the operating horizon is addressed in FAC-010 Requirement 1. The need to develop and share SOLs with other entities that have a reliability-related need for those SOLs is addressed in FAC-011 Requirement 1, Requirement 2, and Requirement 5.
- The elimination of Requirement 6.5 shifts the responsibility for developing IROLs to the RC and assigns responsibility for developing IROLs and SOLs to the RC with assistance, as appropriate, for developing SOLs from the TOP.

## Compliance with Standard

Standard	Functions That Must Comply With the Associated Requirements					
	Reliability Coordinator	Planning Authority	Transmission Planner	Transmission Operator	Transmission Owner	Generator Owner
FAC-010 System Operating Limits Methodology	X	X				
FAC-011 Establish and Communicate System Operating Limits	X	X	X	X		

### ***Phased-in Compliance***

The following table identifies the implementation date and the earliest compliance date for each requirement.

The implementation date is the date entities are expected to begin meeting the performance identified in this standard. Additional time (preparation time) has been added to give entities time needed to fully comply with the requirements. The justification for the difference between effective dates and compliance dates is in the tables on the following pages:

<b>Standard</b>	<b>Full Compliance Date</b>
FAC-010 System Operating Limits Methodology	6 months after BOT adoption
FAC-011 Establish and Communicate System Operating Limits	July 1, 2006 8 months after BOT adoption

<b>FAC-010 — System Operating Limits Methodology</b>	
<b>Measures</b>	<b>Preparation</b>
<b>M1.</b> The Reliability Authority and the Planning Authority’s SOL Methodology shall each include a statement that Facility Ratings shall not be exceeded and shall address all of the items listed in Reliability Standard FAC-010 Requirement 3 through Requirement 5.	Although Reliability Coordinators and Planning Authorities are, and have been, following some sort of methodology (ies), many may not have fully documented the “rules” that are being used and some of the rules may be based simply on individual judgment. The SDT recommends 6 months for the Authorities to verify the completeness of their methodology (ies) and to formalize and obtain approval for their documents.
<b>M2.</b> The Reliability Authority shall have evidence it issued its SOL Methodology, and any changes to that methodology, including the date they were issued, in accordance with FAC-010 Requirement 6.	The Reliability Coordinator should be able to issue its methodology as soon as it is formalized. Therefore the SDT recommends that the same 6 month grace period be applied to this measurement as with FAC-010 M1.
<b>M3.</b> 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 FAC-010 Requirement 7.	The Planning Authority should be able to issue its methodology as soon as it is formalized. Therefore the SDT recommends that the same 6 month grace period be applied to this measurement as with FAC-010 M1.
<b>M4.</b> If the recipient of the SOL Methodology provides documented comments on its technical review of that SOL methodology, the Reliability Authority or 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. 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.	This is a new measure and entities may want to have some time to form a strategy for responding to any comments that may be submitted on their SOL Methodology.  The SDT recommends a grace period of 6 months to implement this measure

**FAC-011 — Establish and Communicate System Operating Limits**

<b>Measures</b>	<b>Preparation</b>
<p><b>M1.</b> The Reliability Authority, 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.</p>	<p>Although Reliability Coordinators, Transmission Operators, Planning Authorities and Transmission Planners are, and have been, establishing System Operating Limits, it may not be possible to prove consistency with a methodology since some methodologies may not have been fully documented and some of the “rules” used may be based simply on individual judgment.</p> <p>Since the entities performing these Functions are required to have a compliant methodology in place 8 months after Board adoption of this Standard, the SDT assumes that during the process of documenting the methodology, the individuals who are calculating the limits will be involved and will be verifying that the methodology does in fact work. This work will establish, at a minimum, a baseline of SOLs as well as a procedure to calculate any remaining limits. The SDT believes that this parallel work will allow entities to establish all its limits very close to the time that the methodology is approved.</p>
<p><b>M2.</b> The Reliability Authority, 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.</p>	<p>This is not currently required and may take some time to achieve. The SDT recommends 8 months for various ‘requesting entities’ to establish and distribute schedules for providing SOLs and for entities that develop SOLs to begin providing the SOLs in accordance with those schedules.</p>