

**Standard Authorization Request (SAR) Form**

Title of Proposed Standard:	Monitor and Assess Short-term Reliability - Operate Within Transmission System Limits -
Request Date:	March 7, 2002
Authorized for Posting:	March 20, 2002
SAR ID# :	OPER_WITHN_LMTS_01_03

<b>SAR Requestor Information</b>	<b>SAR Type (Put an 'x' in front of one of these selections)</b>
Name: Jim Byrd (Al DiCaprio as substitute)	X New Standard
Primary Contact: Al DiCaprio	Revision to existing Standard
Telephone: 610 666-8854 Fax: 610 666-4282	Withdrawal of existing Standard
e-mail: dicapram@pjm.com	Emergency Action

<p><b>Purpose/Industry Need</b></p> <p>The purpose of this standard is to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p>
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<p><b>Brief Description</b></p> <p>This standard requires adherence to established operating limits<sup>1</sup> identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>Requirements shall address:</p> <ul style="list-style-type: none"> <li>- Real time monitoring of system parameters against operating limits</li> <li>- Performing short-term and real-time transmission reliability analyses relative to the identified operating limits</li> <li>- Performing corrective actions to mitigate exceeding operating limits</li> <li>- Keeping records and filing reports</li> </ul>
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<sup>1</sup> These are the limits established through the standard, "Determine Facility Ratings, Operating Limits and Transfer Capabilities"

**Reliability Functions**

<b>The Standard will Apply to the Following Functions</b> (Put an 'X' in front of each one that applies)		
X	Reliability Authority	Ensures the reliability of the bulk transmission system within its Security Authority Area. This is the highest reliability authority.
	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within its metered boundary and supports system frequency in real time
	Interchange Authority	Authorizes valid and balanced Interchange Schedules
	Planning Authority	Plans the bulk electric system
	Transmission Service Provider	Provides transmission services to qualified market participants under applicable transmission service agreements
	Transmission Owner	Owns transmission facilities
X	Transmission Operator	Operates and maintains the transmission facilities, and executes switching orders
	Distribution Provider	Provides and operates the “wires” between the transmission system and the customer
	Generator	Owns and operates generation unit(s) or runs a market for generation products that performs the functions of supplying energy and Interconnected Operations Services
	Purchasing-Selling Entity	The function of purchasing or selling energy, capacity and all necessary Interconnected Operations Services as required.
	Load-Serving Entity	Secures energy and transmission (and related generation services) to serve the end user

***Reliability and Market Interface Principles***

<b>Applicable Reliability Principles</b> (Put an 'x' in front of all that apply)	
X	1. Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions.
	2. The frequency of interconnected bulk electric systems shall be controlled within defined limits through the balancing of electric supply and demand
X	3. Information necessary for planning and operation of interconnected bulk electric systems shall be made available to those entities responsible for planning and operating the systems reliably
	4. Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented
X	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk electric systems
X	6. Personnel responsible for planning and operating interconnected bulk electric systems shall be trained, qualified and have the responsibility and authority to implement actions
X	7. The security of the interconnected bulk electric systems shall be assessed, monitored and maintained on a wide area basis
<b>Does the proposed Standard comply with all of the following Market Interface Principles?</b>	
<i>(Enter 'yes' or 'no')</i>	
	Yes
1.	Interconnected The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy
2.	An Organization Standard shall not give any market participant an unfair competitive advantage
3.	An Organization Standard shall neither mandate nor prohibit any specific market structure
4.	An Organization Standard shall not preclude market solutions to achieving compliance with that Standard
5.	An Organization Standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards

**Detailed Description**

This standard requires that the Reliability Authority and Transmission Operator adhere to established operating limits.

Requirements shall address:

- Real time monitoring of system parameters against operating limits
  - Monitor parameters that indicate the current state of the transmission system
  - Monitor parameters that indicate the current state of tie lines to other systems and of the overall interconnected transmission system
- Performing short-term and real-time transmission reliability analyses relative to the identified operating limits
  - Collect data needed for performing real time reliability analyses
  - Conduct an operating assessment to identify limiting facilities
- Performing corrective actions to mitigate exceeding operating limits
  - Have a documented mitigation plan
  - Implement mitigation plan where necessary
- Keeping records and filing reports
  - Document instances of exceeding identified operating limits
  - Log violations and maintain records for the retention period
  - Report information to NERC based on specified criteria (e.g. magnitude, duration, type of violation, instances of exceeding limits<sup>2</sup>)

**Related SARs**

<b>SAR ID</b>	<b>Explanation</b>
FACILITY_RATINGS_01_01	The “Determine Facility Ratings, Operating Limits, and Transfer Capabilities” SAR identifies how operating limits are established. The operating limits established within this proposed standard are referenced in the proposed “Operate Within Transmission System Limits - Monitor and Assess Short-term Reliability” standard.
COORD_OPERATONS_01_01	The “Coordinate Operations” SAR identifies what reliability-related information to exchange between Functions. Some of the information collected within the proposed “Operate Within Transmission System Limits - Monitor and Assess Short-term Reliability” standard will be used in the proposed “Coordinate Operations” standard.
ABNML_&_EM_COND_01_01	The “Prepare for and respond to Abnormal or Emergency Conditions” SAR will be implemented where this one stops. The two SARs are related.

<sup>2</sup> If an area bounces over a limit, whether it is caused by a contingency or not, this doesn’t need to be reported to NERC as long as the area re-prepares within the NERC guidelines. If the NERC criteria are not met, then these violations should be reported.

***Regional Differences***

<b><i>Region</i></b>	<b><i>Explanation</i></b>
ECAR	None identified
ERCOT	None identified
FRCC	None identified
MAAC	None identified
MAIN	None identified
MAPP	None identified
NPCC	None identified
SERC	None identified
SPP	None identified
WECC	None identified

***Interconnection Differences***

<b><i>Interconnection</i></b>	<b><i>Explanation</i></b>
Eastern	None Identified
Western	None Identified
ERCOT	None Identified

***Implementation Plan***

<b>Description</b>
<p><b><i>The following sections of Operating Policies should be retired when this standard is implemented:</i></b></p> <p>Policy 2 – Transmission</p> <ul style="list-style-type: none"><li>– Standard A.1.</li><li>– Standard A.1.1.</li><li>– Standard A.1.2</li><li>– Standard A.2.</li><li>– Standard A.2.1.</li><li>– Standard A.2.2.</li><li>– Requirement A.1.</li><li>– Requirement A.1.1.</li><li>– Requirement A.1.2.</li><li>– Requirement B.1.</li><li>– Requirement B.5.</li></ul> <p>Policy 9 – Security Coordinator Procedures</p> <ul style="list-style-type: none"><li>– Introduction – Introductory paragraph and second and third bullets</li><li>– Requirement A.1.</li><li>– Requirement A.1.2.</li><li>– Requirement C. 3.1.</li><li>– Requirement C.3.2.</li><li>– Requirement C.3.2.1.</li><li>– Requirement C.3.2.1.1.</li></ul> <p>Policy 4 – System Coordination</p> <ul style="list-style-type: none"><li>– Section A (<i>Section A needs careful scrutiny by numerous SAR Drafting Teams</i>)</li></ul> <p>Policy 5 – Emergency Operations</p> <ul style="list-style-type: none"><li>– Section C</li><li>– Section D</li></ul>

**SAR: Monitor and Assess Short-term Trans Reliability – Operate Within Transmission Limits**

<b>SAR Drafting Team</b>	
<b>Chairman</b>	James Case
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