

When completed, email to: [gerry.cauley@nerc.net](mailto:gerry.cauley@nerc.net)

## Standard Authorization Request Form

Title of Proposed Standard	Phase III/IV Planning Standards - Modeling
Request Date	November 17, 2004

SAR Requestor Information	SAR Type (Put an 'x' in front of one of these selections)	
Name Version 0 Drafting Team and Planning Standards Task Force	<input checked="" type="checkbox"/>	New Standard
Primary Contact Brian Thumm/Armie Perez	<input type="checkbox"/>	Revision to existing Standard
Telephone 504-310-5818/916-351-4444 Fax	<input type="checkbox"/>	Withdrawal of existing Standard
E-mail bthumm@entergy.com aperez@caiso.com	<input type="checkbox"/>	Urgent Action

### Purpose/Industry Need (Provide one or two sentences)

Certain planning standards that were part of the Phase III and IV NERC compliance program were not included in the Version 0 reliability standards. The Version 0 drafting team, supported by industry comments, realized it could not achieve industry consensus on these specific standards in the timeframe or within the scope of the Version 0 standards project. These standards are important, nonetheless, as they contain critical reliability requirements in support of recommendations from the NERC and U.S./Canada Power System Outage Task Force reports on the August 14, 2003 blackout. Recognizing the importance of these standards, the NERC board resolved on October 15, 2004, that: "A satisfactory resolution of the issues regarding Phases III and IV of the planning standards would be to: (1) develop reliability standards covering the Phase III and Phase IV issues separate from the Version 0 effort, using the NERC standards development process; (2) have the Planning Committee expeditiously complete the drafting of the proposed standards needed to address the Phase III and Phase IV issues, and move those standards through the NERC standards development process as promptly as possible, but not later than the May 2005 board meeting." This SAR proposes the development of reliability standards that address the modeling requirements of those Phase III and IV planning standards.

## Reliability Functions

The Standard will Apply to the Following Functions (Check box for each one that applies by double clicking the grey boxes.)		
<input type="checkbox"/>	Reliability Authority	Ensures the reliability of the bulk transmission system within its Reliability Authority area. This is the highest reliability authority.
<input type="checkbox"/>	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
<input type="checkbox"/>	Interchange Authority	Authorizes valid and balanced Interchange Schedules
<input checked="" type="checkbox"/>	Planning Authority	Plans the bulk electric system
<input checked="" type="checkbox"/>	Resource Planner	Develops a long-term (>1year) plan for the resource adequacy of specific loads within a Planning Authority area.
<input checked="" type="checkbox"/>	Transmission Planner	Develops a long-term (>1 year) plan for the reliability of transmission systems within its portion of the Planning Authority area.
<input type="checkbox"/>	Transmission Service Provider	Provides transmission services to qualified market participants under applicable transmission service agreements
<input checked="" type="checkbox"/>	Transmission Owner	Owens transmission facilities
<input checked="" type="checkbox"/>	Transmission Operator	Operates and maintains the transmission facilities, and executes switching orders
<input checked="" type="checkbox"/>	Distribution Provider	Provides and operates the “wires” between the transmission system and the customer
<input checked="" type="checkbox"/>	Generator Owner	Owens and maintains generation unit(s)
<input checked="" type="checkbox"/>	Generator Operator	Operates generation unit(s) and performs the functions of supplying energy and Interconnected Operations Services
<input type="checkbox"/>	Purchasing-Selling Entity	The function of purchasing or selling energy, capacity and all necessary Interconnected Operations Services as required
<input type="checkbox"/>	Market Operator	Integrates energy, capacity, balancing, and transmission resources to achieve an economic, reliability-constrained dispatch.
<input checked="" type="checkbox"/>	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> (Check boxes for all that apply by double clicking the grey boxes.)	
<input checked="" type="checkbox"/>	1. Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk electric systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk electric systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk electric systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk electric systems shall be trained, qualified and have the responsibility and authority to implement actions.
<input checked="" type="checkbox"/>	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> (Select 'yes' or 'no' from the drop-down box by double clicking the grey area.)	
1. The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy. Yes	
2. An Organization Standard shall not give any market participant an unfair competitive advantage. Yes	
3. An Organization Standard shall neither mandate nor prohibit any specific market structure. Yes	
4. An Organization Standard shall not preclude market solutions to achieving compliance with that Standard. Yes	
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. Yes	

**Detailed Description** (Provide enough detail so that an independent entity familiar with the industry could draft, modify, or withdraw a Standard based on this description.)

The standard drafting team will consider comments received from industry in response to the posting of the Version 0 draft reliability standards and from the Phase III field testing. The drafting team will start from prior work on these standards by the Version 0 drafting team and the Planning Standards TF. The standard drafting team, through the reliability standards process, will be tasked to translate those reliability requirements within these standards for which industry consensus can be gained, to incorporate the functional model identifications for each requirement, and to conform the standards to the reliability standards format and numbering convention. The drafting team will be tasked to resolve technical comments as necessary to achieve consensus but not to introduce new reliability requirements. The drafting team will be tasked to prepare a recommendation on how to ballot the standards, e.g. individually or in logical groupings. The list below represents the modeling standards proposed to be developed within the scope of this SAR. The drafting team will be tasked to develop the requirements and measures within these Phase III/IV standards. The drafting team will be requested to expedite its work to meet the NERC board's target of adopting the standards in May 2005.

I.D.S1.M1, Assessment of reactive power resources

I.D.S1.M2, Generator reactive power capability

II.B.S1.M1, Procedures for validating generation equipment data

II.B.S1.M2, Verification of gross & net dependable capability

II.B.S1.M3, Verification of gross & reactive power capability of generators

II.B.S1.M4., Test results of gen. voltage regulator controls & limit functions

II.B.S1.M5, Test results of speed/load governor controls

II.B.S1.M6, Verification of excitation system dynamic modeling data

II.E.S1.M1, Plans for the evaluation and reporting of voltage & frequency characteristics of customer demands

II.E.S1.M2, Documentation of requirements for determining dynamic characteristics of customer demands

II.E.S1.M3, Customer (dynamic) demand data

III.C.S1.M1, Procedure by Sys Operator for reporting operation without automatic voltage control mode

III.C.S1.M2, Log of operation without automatic voltage control mode by gen owner

III.C.S2.M3, Documentation of schedule for maintaining network voltage

III.C.S2.M4, Log operation not maintaining network voltage schedules

III.C.S2.M5, Reporting Procedures for tap settings of generator step-up & auxiliary transformers

III.C.S2.M6, Tap settings Data of generator step-up & auxiliary transformers

III.C.S3.M7, Requirements for withstanding temporary excursions in frequency, voltage, etc

III.C.S4.M8, Info on generator controls coordination with unit's short-term capabilities & protective relays

III.C.S5.M9, Information on speed/load governing system

### ***Related Standards***

<b>Standard No.</b>	<b>Explanation</b>
Version 0	The proposed standards complement the proposed Version 0 standards and are in addition to those standards.

### ***Related SARs***

<b>SAR ID</b>	<b>Explanation</b>

### ***Regional Differences***

<b>Region</b>	<b>Explanation</b>
ECAR	
ERCOT	
FRCC	
MAAC	
MAIN	
MAPP	
NPCC	
SERC	

SPP	
WECC	

***Related NERC Operating Policies or Planning Standards***

ID	Explanation
	Proposed reliability standards replace named planning standards above.