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Standard Authorization Request Form

Title of Proposed Standard	Resource Adequacy Assessments
Request Date	November 15, 2005

SAR Requestor Information	SAR Type (Put an 'x' in front of one of these selections)	
Name Mary Johannis (RIS Chair) on behalf of the Resource Adequacy Assessments Standard Drafting Team	<input checked="" type="checkbox"/>	New Standard
Primary Contact Mary Johannis	<input type="checkbox"/>	Revision to existing Standard
Telephone 503-230-3047 Fax 503-230-3270	<input type="checkbox"/>	Withdrawal of existing Standard
E-mail mhjohannis@bpa.gov	<input type="checkbox"/>	Urgent Action

Purpose/Industry Need

The purpose of this standard is to implement certain recommendations from the *Resource and Transmission Adequacy Task Force (RTATF) Report* and the *Gas/Electricity Interdependency Task Force Report*, approved by the NERC Board on June 15, 2004, related to resource adequacy. Because the NERC functional model was still in the developmental stages at the time of the formulation of the RTATF Report, no attempt was made to develop recommendations that specifically conform to the NERC functional model framework. This standard would establish a requirement for the Regions to: 1) create a metric(s) to assess resource adequacy that takes into account various factors, including, but not limited to, fuel deliverability, 2) perform resource adequacy assessments, 3) make the results of the assessments available to the industry and appropriate regulatory agencies, and 4) make the assessments and associated data available to NERC for their review. If approved, this standard will facilitate the Energy Policy Act of 2005 mandate for the Electricity Reliability Organization (ERO) to “conduct periodic assessments of the reliability and adequacy of the bulk-power system in North America,”¹ assuming NERC is eventually certified as the ERO.

¹ Energy Policy Act of 2005, Title XII—Electricity, Subtitle A—Reliability Standards, (g) RELIABILITY REPORTS

Reliability Functions

The Standard will Apply to the Following Functions		
<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 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 type="checkbox"/>	Transmission Owner	Owns transmission facilities
<input type="checkbox"/>	Transmission Operator	Operates and maintains the transmission facilities, and executes switching orders
<input type="checkbox"/>	Distribution Provider	Provides and operates the “wires” between the transmission system and the customer
<input type="checkbox"/>	Generator Owner	Owns and maintains generation unit(s)
<input 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

Applicable Reliability Principles	
<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 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 type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented.
<input 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 type="checkbox"/>	7. The security of the interconnected bulk electric systems shall be assessed, monitored and maintained on a wide area basis.
Does the proposed Standard comply with all of the following Market Interface Principles?	
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.)

Definition: Resource adequacy is defined as the ability of supply-side and demand-side resources to meet the aggregate electrical demand and energy requirements of the end-use customers with a specified degree of reliability.

This Standard would require the following:

- 1) Each NERC Regional Reliability Organization (Region) shall establish a framework by which to assess the resource adequacy of the Region. Such framework shall recognize applicable local/state/province or multi-state/province resource adequacy criteria or requirements, where such criteria/requirements exist. The regional resource adequacy framework should include a probability-based evaluation of whether projected resources will be sufficient to meet forecasted load taking into account relevant uncertainties.
- 2) RTO/ISO(s), generation reserve sharing pool(s) and/or other appropriate entity(ies) should establish resource adequacy requirements so as to comply with the resource adequacy criterion (or criteria) of the Region. The Region or sub-regions should establish assessment methodologies to determine whether the adequacy criteria are met.
- 3) Each Region shall periodically assess, through analysis, the resource adequacy of the Region utilizing the established framework. As a part of the assessment, each Region should describe the expected resource characteristics for the study period. The assessment should identify risks to resource adequacy, such as the impacts, if any, of fuel supply interruptions and describe available mechanisms to mitigate such impacts. Other factors such as expected transmission constraints and/or environmental restrictions that may impact the Region's resource adequacy should be examined. The assessment should include analyses supporting all critical assumptions.
- 4) The results of all Regional resource adequacy assessments, whether performed by NERC or the Regions, should be made public with the understanding that some data which supports the assessment may be confidential and may not be made public. The Region will aggregate the supply/demand data within the Region and report an aggregate number, not individual electric utility supply/demand data if that data is not available in other public forums.
- 5) NERC should perform periodic audits of the Regional resource adequacy assessment processes. Such audits should validate the compliance of the Regional adequacy requirements with the resource adequacy criteria and may include the performance of independent analysis by NERC. Such audits should also confirm the consistent application of standard resource adequacy assessment methodologies, including appropriate Regional variations.
- 6) NERC, in conjunction with the Regions, should conduct periodic reviews of the respective Regional resource adequacy criteria and their methodologies for general consistency, interdependency and/or impact on adjacent Regions, the treatment of contract considerations, and the deliverability of resources to load.

Related Standards

Standard No.	Explanation
MOD-001-0	Regional Steady-State Data Requirements and Reporting Procedures
MOD-014-0	Development of Steady State System Models
TPL-005-0	Regional and Inter-Regional Self-Assessment Reliability Reports
MOD-0017-1	Aggregated Actual and Forecast Demands, Net Energy for Load
MOD-0018-0	Reports of Actual and Forecast Demand Data

Related SARs

SAR ID	Explanation
MOD-0016-1	Actual and Forecast Demands, Net Energy for Load, Controllable DSM

Regional Differences

Region	Explanation
ECAR	
ERCOT	
FRCC	
MAAC	
MAIN	
MAPP	
NPCC	
SERC	
SPP	
WECC	

Related NERC Operating Policies or Planning Standards

ID	Explanation