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## Standard Authorization Request Form

Title of Proposed Standard	Resource Adequacy Assessments
Request Date	November 11, 2004

SAR Requestor Information	SAR Type (Put an 'x' in front of one of these selections)
Name Scott Helyer (RIS Chair) Mary Johannis (RIS Vice Chair) on behalf of the NERC Planning Committee	<input checked="" type="checkbox"/> New Standard
Primary Contact Scott Helyer/Mary Johannis	<input type="checkbox"/> Revision to existing Standard
Telephone 817-462-1512/503-230-3047 Fax 817-462-1510/503-230-3270	<input type="checkbox"/> Withdrawal of existing Standard
E-mail <a href="mailto:shelyer@tnsk.com">shelyer@tnsk.com</a> and <a href="mailto:mhjohnnis@bpa.gov">mhjohnnis@bpa.gov</a>	<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 SAR would establish requirements for various entities 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.

## 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 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>	
<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.
<b>Does the proposed Standard comply with all of the following Market Interface Principles?</b>	
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.)

This standard would require:

- 1) Each NERC Regional Reliability Organization (Region) to establish a resource adequacy criterion (or criteria) based on some metric (e.g., LOLE or LOLP), consistent with applicable state/province or multi-state/province resource adequacy criteria or requirements. The adequacy criteria should take into account operable capacity situations and reflect the impact of expected transmission constraints, fuel deliverability, environmental restrictions, and other relevant factors.
- 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 should be required to demonstrate periodically, through analysis, that Regional resource adequacy requirements (such as reserve margins, capacity margins, etc.) satisfy the applicable resource adequacy criteria (such as, LOLE or LOLP). As a part of the demonstration, each Region should describe the expected resource capacity characteristics for the study period and demonstrate that possible fuel supply interruptions have no adverse impact on system reliability. Each Region should also describe available mechanisms to mitigate the impacts of fuel interruption(s) on its ability to serve load reliably. Other factors such as expected transmission constraints and/or environmental restrictions that may impact the Region's resource adequacy should be examined. The demonstrations 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***

<b>Standard No.</b>	<b>Explanation</b>
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

***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