

## Standard Authorization Request Form

Title of Proposed Standard	Certifying System Operators (Project 2007-04)
Request Date	July 07, 2007

<b>SAR Requestor Information</b>	<b>SAR Type</b> ( <i>Check a box for each one that applies.</i> )
Name            David Carlson	<input type="checkbox"/> New Standard
Primary Contact    David Carlson	<input checked="" type="checkbox"/> Revision to existing Standard:  PER-003-0 Operating Personnel Credentials
Telephone    (630) 691-4480 Fax            (630) 691-4697	<input type="checkbox"/> Withdrawal of existing Standard
E-mail            david.carlson@exeloncorp.com	<input type="checkbox"/> Urgent Action

**Purpose** (Describe the purpose of the standard — what the standard will achieve in support of reliability.)

1. Provide an adequate level of reliability for the North American bulk power systems — the standards are complete and the requirements are set at an appropriate level to ensure reliability.
2. Ensure they are enforceable as mandatory reliability standards with financial penalties — the applicability to bulk power system owners, operators, and users, and as appropriate particular classes of facilities, is clearly defined; the purpose, requirements, and measures are results focused and unambiguous; the consequences of violating the requirements are clear.
3. Incorporate other general improvements described in the standards development work plan.
4. Consider comments received during the initial development of the standards and other comments received from ERO regulatory authorities and stakeholders.
5. Satisfy the standards procedure requirement for five-year review of the standards.

This SAR is intended to address the following:

- FERC Final Rule "Mandatory Reliability Standards for the Bulk-Power System, FERC Order 693" on the NERC standard PER-003
- To incorporate the necessary content, structure, and language to comply with the NERC standards process

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**Industry Need** (Provide a detailed statement justifying the need for the proposed standard, along with any supporting documentation.)

PER-003 is a Version 0 standard. As the electric reliability organization begins enforcing compliance with reliability standards under Section 215 of the Federal Power Act in the United States and applicable statutes and regulations in Canada, the industry needs a set of clear, measurable, and enforceable reliability standards. The Version 0 standards, while a good foundation, were translated from historical operating and planning policies and guides that were appropriate in an era of voluntary compliance. The Version 0 standards and recent updates were put in place as a temporary starting point to stand up the electric reliability organization and begin enforcement of mandatory standards. However, it is important to update the standards in a timely manner, incorporating improvements to make the standards more suitable for enforcement and to capture prior recommendations that were deferred during the Version 0 translation.

### **Brief Description**

This Version 0 Standard requires the Reliability Coordinator, Balancing Authority and Transmission Operator to staff its real-time operating positions with personnel that have a NERC certification credential.

The standard will be revised to address the directives from FERC Order 693 and industry comments from Version 0.

The standard will also be revised to conform to the latest version of the Reliability Standards Development Procedure and the ERO Sanctions Guidelines. The standard drafting team will apply the Reliability Standard Review Guidelines when modifying the standard. (Attachment 1)

**Detailed Description** (Describe the proposed standard in sufficient detail to clearly define the scope in a manner that can be easily understood by others.)

This Version 0 Standard requires the Reliability Coordinator, Balancing Authority and Transmission Operator to staff its real-time operating positions with personnel that have a NERC certification credential.

During 2006, the standards staff received a request to develop an interpretation to clarify which operating personnel need to be NERC certified, and the interpretation did not meet stakeholder consensus. The standard needs to be modified to clarify which system operators need to be NERC certified. The existing NERC standard only requires certification of the system operators who work for the entities who register as the Reliability Coordinator, Transmission Operator and Balancing Authority. This means that some system operators who monitor and control bulk power system facilities are not currently required to obtain a NERC certification credential. The certification requirements for local transmission control center operators and local generation control center operators need to be identified and then the standard needs to be modified to address their certification. The existing NERC Certification credentials are designed to test the knowledge and abilities of Reliability Coordinators, Balancing Authority, and Transmission Operator real-time operations personnel who are directly responsible for following NERC Standards. To fully address the needs of certifying the Local Control Center operators that are under the authority of an ISO/RTO, new certification credentials will need to be developed to address the specific job requirements of those positions. Specifically, the following directives and comments will be addressed:

### *FERC Order 693*

- Specify minimum competencies that must be demonstrated to become and remain a certified operator
- Identify minimum competencies operating personnel must demonstrate to be certified
- Consider grandfathering certification requirements for transmission operator personnel as part of the standards development process

### *VO Industry Comments*

- Clarification from the drafting team on the intended meaning of "current" in the Measures.
- R1 — Suggestion to be incorporated into the next version (version 1): The operating position is to be filled by a person holding the appropriate level certification. For Example; a person that is acting as the Reliability Coordinator will need to hold a Reliability Coordinator Operator Certification and a person acting as a Transmission Operator would need to hold a Transmission Operator Certification.
- R1 — Policy 8C Standard 1 is satisfactorily represented by Standard 032 Requirement 1. However, there was a one word change from "both" to "either", that can change the meaning of the statement, depending upon interpretation. In the interest of keeping the continuity between Policy 8C and Standard 32, the wording should be kept consistent and any changes be made through the normal process as part of version 1.
- R1 — Exelon Corporation suggests that Version 1 of this Standard be initiated to address the requirement to have NERC Certified Operators that perform functions that are formally delegated similar to the requirement of Policy 9B Req. 3.
- Measure could be that one has documentation of Certification of all personnel.
- M1.a indicates that "Trainees may perform critical tasks only under the direct, continuous supervision and observation.... "What constitutes a "critical task?" What duties performed in a typical control center are not "critical?" Inclusion of "critical tasks" is most likely a reference to the Critical Task List that has been established to guide operators in determining which of the four certification credentials (BIO, TO, BIT, RO) they are required to attain.
- The OTS suggests the reference to "critical tasks" be removed to prevent possible interpretation that the uncertified operator can perform routine tasks but not "critical" tasks. Or, change it to reference the Critical Task List of the credential and include it in the Standard.
- Compliance Monitoring Process — It isn't clear what is meant by "previous calendar year staffing plan." A "staffing plan" sounds like a plan for staffing — if so, what does that have to do with filling operating positions with certified operators? A simple determination of which positions require certified operators should be sufficient. Need to modify to be clear.

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***Reliability Functions***

<b>The Standard will Apply to the Following Functions</b> <i>(Check box for each one that applies.)</i>		
<input checked="" type="checkbox"/>	Reliability Coordinator	Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator's wide area view.
<input checked="" type="checkbox"/>	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within a Balancing Authority Area and supports Interconnection frequency in real time.
<input checked="" type="checkbox"/>	Interchange Authority	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
<input type="checkbox"/>	Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.
<input type="checkbox"/>	Resource Planner	Develops a >one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.
<input type="checkbox"/>	Transmission Planner	Develops a >one year plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.
<input type="checkbox"/>	Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
<input checked="" type="checkbox"/>	Transmission Owner	Owns and maintains transmission facilities.
<input checked="" type="checkbox"/>	Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
<input type="checkbox"/>	Distribution Provider	Delivers electrical energy to the End-use customer.
<input checked="" type="checkbox"/>	Generator Owner	Owns and maintains generation facilities.
<input checked="" type="checkbox"/>	Generator Operator	Operates generation unit(s) to provide real and reactive power.
<input type="checkbox"/>	Purchasing-Selling Entity	Purchases or sells energy, capacity, and necessary reliability-related services as required.
<input type="checkbox"/>	Market Operator	Interface point for reliability functions with commercial functions.
<input type="checkbox"/>	Load-Serving Entity	Secures energy and transmission service (and reliability-related services) to serve the End-use Customer.

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***Reliability and Market Interface Principles***

<b>Applicable Reliability Principles</b> <i>(Check box for all that apply.)</i>	
<input 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 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 checked="" 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.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.
<b>Does the proposed Standard comply with all the following Market Interface Principles?</b> <i>(Select "yes" or "no" from the drop-down box.)</i>	
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	

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***Related Standards***

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

***Related SARs***

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

***Regional Differences***

<b>Region</b>	<b>Explanation</b>
ERCOT	
FRCC	
MRO	
NPCC	
SERC	
RFC	
SPP	
WECC	

## Attachment 1 — Standard Review Guidelines

### Applicability

Does this reliability standard clearly identify the functional classes of entities responsible for complying with the reliability standard, with any specific additions or exceptions noted? Where multiple functional classes are identified is there a clear line of responsibility for each requirement identifying the functional class and entity to be held accountable for compliance? Does the requirement allow overlapping responsibilities between Registered Entities possibly creating confusion for who is ultimately accountable for compliance?

Does this reliability standard identify the geographic applicability of the standard, such as the entire North American bulk power system, an interconnection, or within a regional entity area? If no geographic limitations are identified, the default is that the standard applies throughout North America.

Does this reliability standard identify any limitations on the applicability of the standard based on electric facility characteristics, such as generators with a nameplate rating of 20 MW or greater, or transmission facilities energized at 200 kV or greater or some other criteria? If no functional entity limitations are identified, the default is that the standard applies to all identified functional entities.

### Purpose

Does this reliability standard have a clear statement of purpose that describes how the standard contributes to the reliability of the bulk power system? Each purpose statement should include a value statement.

### Performance Requirements

Does this reliability standard state one or more performance requirements, which if achieved by the applicable entities, will provide for a reliable bulk power system, consistent with good utility practices and the public interest?

Does each requirement identify who shall do what under what conditions and to what outcome?

### Measurability

Is each performance requirement stated so as to be objectively measurable by a third party with knowledge or expertise in the area addressed by that requirement?

Does each performance requirement have one or more associated measures used to objectively evaluate compliance with the requirement?

If performance results can be practically measured quantitatively, are metrics provided within the requirement to indicate satisfactory performance?

### Technical Basis in Engineering and Operations

Is this reliability standard based upon sound engineering and operating judgment, analysis, or experience, as determined by expert practitioners in that particular field?

### Completeness

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Is this reliability standard complete and self-contained? Does the standard depend on external information to determine the required level of performance?

### **Consequences for Noncompliance**

In combination with guidelines for penalties and sanctions, as well as other ERO and regional entity compliance documents, are the consequences of violating a standard clearly known to the responsible entities?

### **Clear Language**

Is the reliability standard stated using clear and unambiguous language? Can responsible entities, using reasonable judgment and in keeping with good utility practices, arrive at a consistent interpretation of the required performance?

### **Practicality**

Does this reliability standard establish requirements that can be practically implemented by the assigned responsible entities within the specified effective date and thereafter?

### **Capability Requirements versus Performance Requirements**

In general, requirements for entities to have ‘capabilities’ (this would include facilities for communication, agreements with other entities, etc.) should be located in the standards for certification. The certification requirements should indicate that entities have a responsibility to ‘maintain’ their capabilities.

### **Consistent Terminology**

To the extent possible, does this reliability standard use a set of standard terms and definitions that are approved through the NERC reliability standards development process?

If the standard uses terms that are included in the NERC Glossary of Terms Used in Reliability Standards, then the term must be capitalized when it is used in the standard. New terms should not be added unless they have a ‘unique’ definition when used in a NERC reliability standard. Common terms that could be found in a college dictionary should not be defined and added to the NERC Glossary.

Are the verbs on the ‘verb list’ from the DT Guidelines? If not – do new verbs need to be added to the guidelines or could you use one of the verbs from the verb list?

### **Violation Risk Factors (Risk Factor)**

#### **High Risk Requirement**

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

#### **Medium Risk Requirement**



A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

**Lower Risk Requirement**

A requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. A requirement that is administrative in nature;

or a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

**Time Horizon**

The drafting team should also indicate the time horizon available for mitigating a violation to the requirement using the following definitions:

- **Long-term Planning** — a planning horizon of one year or longer.
- **Operations Planning** — operating and resource plans from day-ahead up to and including seasonal.
- **Same-day Operations** — routine actions required within the timeframe of a day, but not real-time.
- **Real-time Operations** — actions required within one hour or less to preserve the reliability of the bulk electric system.
- **Operations Assessment** — follow-up evaluations and reporting of real time operations.

**Violation Severity Levels**

The drafting team should indicate a set of violation severity levels that can be applied for the requirements within a standard. ('Violation severity levels' replace existing 'levels of non-compliance.')

The violation severity levels must be applied for each requirement and may be combined to cover multiple requirements, as long as it is clear which requirements are included and that all requirements are included.

**The violation severity levels should be based on the following definitions:**

- **Lower: mostly compliant with minor exceptions** — The responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more minor details. Equivalent score: more than 95% but less than 100% compliant.
- **Moderate: mostly compliant with significant exceptions** — The responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more significant elements. Equivalent score: more than 85% but less than or equal to 95% compliant.
- **High: marginal performance or results** — The responsible entity has only partially achieved the reliability objective of the requirement and is missing one or more significant elements. Equivalent score: more than 70% but less than or equal to 85% compliant.
- **Severe: poor performance or results** — The responsible entity has failed to meet the reliability objective of the requirement. Equivalent score: 70% or less compliant.

**Compliance Monitor**

Replace, ‘Regional Reliability Organization’ with ‘Regional Entity’

**Compliance Monitoring Period and Reset Time Frame**

FERC has determined that the performance reset timeframe cannot be longer than a month.

**Fill-in-the-blank Requirements**

Do not include any ‘fill-in-the-blank’ requirements. These are requirements that assign one entity responsibility for developing some performance measures without requiring that the performance measures be included in the body of a standard – then require another entity to comply with those requirements.

Every reliability objective can be met, at least at a threshold level, by a North American standard. If we need regions to develop regional standards, such as in under-frequency load shedding, we can always write a uniform North American standard for the applicable functional entities as a means of encouraging development of the regional standards.

**Requirements for Regional Reliability Organization**

Do not write any requirements for the Regional Reliability Organization. Any requirements currently assigned to the RRO should be re-assigned to the applicable functional entity.

**Effective Dates**

Must be 1<sup>st</sup> day of 1<sup>st</sup> quarter after entities are expected to be compliant – must include time to file with regulatory authorities and provide notice to responsible entities of the obligation to comply. If the standard is to be actively monitored, time for the Compliance Monitoring and Enforcement Program to develop reporting instructions and modify the Compliance Data Management System(s) both at NERC and Regional Entities must be provided in the implementation plan. Must be linked to the applicable regulatory authority approvals.

**Associated Documents**

If there are standards that are referenced within a standard, list the full name and number of the standard under the section called, ‘Associated Documents’.

**Functional Model Version 3**

Review the requirements against the latest descriptions of the responsibilities and tasks assigned to functional entities as provided in pages 13 through 53 of the draft Functional Model Version 3.