

## Standard Authorization Request Form

Revisions to FAC-003-1 Transmission Vegetation Management Program Project 2007-07	
Request Date	January 9, 2007
Revised Date	April 2, 2007

SAR Requestor Information	SAR Type <i>(Check a box for each one that applies.)</i>
Name Richard Dearman	<input type="checkbox"/> New Standard
Primary Contact Richard Dearman	<input checked="" type="checkbox"/> Revision to existing Standard
Telephone (256) 851-3523 Fax	<input type="checkbox"/> Withdrawal of existing Standard
E-mail redearman@tva.gov	<input type="checkbox"/> Urgent Action

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

The purpose of revising this standard is to:

1. Provide an adequate level of reliability for the North American electric transmission system – by verifying that the standard is complete and that its requirements are set at an appropriate level to ensure reliability.
2. Incorporate other general improvements described in the attached Standard Review Guidelines to bring it into conformance with the latest version of the Reliability Standard Development Procedure and the ERO Sanctions Guidelines.
3. Consider comments received from ERO regulatory authorities and stakeholders, as noted in the attached review sheets.
4. Satisfy the standards procedure requirement for five-year review of the standards.

**Detailed Description**

This is a new standard that was approved in 2006. It has some 'fill-in-the-blank' components to eliminate. In addition, the following comments submitted by FERC and stakeholders need to be addressed in the refinement of the standard:

**FERC Order 693 items**

1. To address the issue regarding applicability:
  - The Standard DT shall work with the reliability entities and the ERO to collect and make available to the FERC, a list of critical lower voltage transmission lines. (Refer to Applicability 4.3 section of the standard.)
    - The standard DT may consider other criteria in determining applicability of the standard to sub 200kV lines.
2. To address the issue of clearances for lines on both federal and non-federal lands:
  - The standard drafting team shall collect and analyze outage data then consider defining clearances needed to avoid sustained vegetation-related outages that would apply to transmission lines crossing both federal and non-federal land.
3. To consider revising the definition of right of way to encompass required clearance areas.
4. To review the suitability of IEEE 516-2003 standard for minimum vegetation clearance.

**Procedural items**

5. Re-format standard to bring it into conformance with the latest version of the Reliability Standard Development Procedure and the ERO Sanctions Guidelines.
6. Remove references to RRO in the standard and substitute a responsible entity.
7. Add compliance elements such as time horizons, and violation severity levels.

**Stakeholder items**

8. The Standard DT shall prepare technical reference material such as a "white paper" to aid in understanding the technical basis for the standard.
9. The Standard DT shall review reporting criteria for Category 3 outages in the proposed technical reference material and may remove the reporting requirement of Category 3 outages in R.3 and R.4.
10. The Standard DT shall consider deleting requirement R.4.
11. The Standard DT will review the reporting exemptions to include all category outages under major disasters in Requirement R3.2.

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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 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 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 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 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 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 type="checkbox"/>	Generator Owner	Owns and maintains generation facilities.
<input 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 all 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 (and related reliability-related services) to serve the End-use Customer.

**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 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 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 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***

Standard No.	Explanation

***Related SARs***

SAR ID	Explanation

***Regional Differences***

Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
SERC	
RFC	
SPP	
WECC	

## **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**

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 may be applied for each requirement or combined to cover multiple requirements, as long as it is clear which 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: 95% to 99% 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: 85% to 94% 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: 70% to 84% compliant.
- Severe: poor performance or results — The responsible entity has failed to meet the reliability objective of the requirement. Equivalent score: less than 70% compliant.

### **Compliance Monitor**

Replace, 'Regional Reliability Organization' with 'Regional Entity'.

### **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 1st day of 1st 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.

### **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.