



May 5, 2009

**VIA ELECTRONIC FILING**

Lorraine Légère, Board Secretary  
New Brunswick Board of Commissioners of Public Utilities  
P.O. Box 5001  
15 Market Square, Suite 1400  
Saint John, NB  
E2L 4Y9

Re: *North American Electric Reliability Corporation*

Dear Ms. Légère:

The North American Electric Reliability Corporation (“NERC”) hereby submits this notice of filing of interpretation of Requirement R11 in NERC Reliability Standard TOP-002-2 — Normal Operations Planning, that is designated as TOP-002-2a and set forth in **Exhibit A** to this petition. The formal interpretation was approved by the NERC Board of Trustees on February 10, 2009.

NERC’s notice consists of the following:

- This transmittal letter;
- A table of contents for the filing;
- A narrative description explaining how the formal interpretation meets the reliability goal of the standard involved;
- Formal interpretations submitted for approval (**Exhibit A**);
- Reliability Standard TOP-002-2a that includes the appended formal interpretation (**Exhibit B**); and
- The complete development record of the formal interpretation (**Exhibit C**).

Please contact the undersigned if you have any questions.

Respectfully submitted,

/s/ Rebecca J. Michael

Rebecca J. Michael

*Assistant General Counsel for North  
American Electric Reliability  
Corporation*

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**BEFORE THE  
MINISTRY OF ENERGY  
OF THE PROVINCE OF NEW BRUNSWICK**

**NORTH AMERICAN ELECTRIC                    )  
RELIABILITY CORPORATION                )**

**NOTICE OF FILING OF THE  
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION  
OF FORMAL INTERPRETATION TO RELIABILITY STANDARD TOP-002-2 –  
NORMAL OPERATIONS PLANNING**

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May 5, 2009

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## **I. INTRODUCTION**

The North American Electric Reliability Corporation (“NERC”) hereby submits notice of an interpretation to a requirement of a NERC Reliability Standard:

- TOP-002-2 — Normal Operations Planning, Requirement R11

No modifications to the language contained in this specific requirement are being proposed through the interpretation.

The NERC Board of Trustees approved the formal interpretation to TOP-002-2 — Normal Operations Planning, Requirement R11 on February 10, 2009. **Exhibit A** to this filing sets forth the formal interpretation. **Exhibit B** contains the affected Reliability Standard containing the appended interpretation. **Exhibit C** contains the complete development record of the formal interpretation to the Reliability Standard requirement.

NERC filed this formal interpretation with the Federal Energy Regulatory Commission (“FERC”) on March 5, 2009, and is filing this formal interpretation with the other applicable governmental authorities in Canada.

## **II. NOTICES AND COMMUNICATIONS**

Notices and communications with respect to this filing may be addressed to the following:

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President and Chief Executive Officer  
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### **III. BACKGROUND**

#### **a. Reliability Standards Development Procedure and Interpretation**

All persons who are directly or materially affected by the reliability of the North American bulk power system are permitted to request an interpretation of a Reliability Standard, as discussed in NERC's *Reliability Standards Development Procedure*, which is incorporated into the Rules of Procedure as Appendix 3A.<sup>1</sup> Upon request, NERC will assemble a team with the relevant expertise to address the interpretation request and, within 45 days, present a formal interpretation for industry ballot. If approved by the ballot pool and the NERC Board of Trustees, the interpretation is appended to the Reliability Standard and filed for approval by the applicable governmental authorities to be made effective when approved. When the affected Reliability Standard is next revised using the Reliability Standards Development Process, the interpretation will then be incorporated into the Reliability Standard.

The formal interpretation set out in **Exhibit A** has been developed and approved by industry stakeholders using NERC's *Reliability Standards Development Procedure*. It was approved by the NERC Board of Trustees on February 10, 2009.

### **IV. TOP-002-2 — Normal Operations Planning, Requirement R11**

In this filing, NERC is submitting a proposed interpretation to Requirement R11, which is labeled as TOP-002.2a and is included in **Exhibit B**. In Section IV(a) below, NERC discusses the interpretation, explains the need for, and discusses the development of, the formal interpretation to Requirement R11 of TOP-002-2 — Normal Operations

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<sup>1</sup> See NERC's *Reliability Standards Development Procedure*, Approved by the NERC Board of Trustees on March 12, 2007, and Effective June 7, 2007 ("Reliability Standards Development Procedure"), available at [http://www.nerc.com/files/Appendix3A\\_StandardsDevelopmentProcess.pdf](http://www.nerc.com/files/Appendix3A_StandardsDevelopmentProcess.pdf).

Planning. In this discussion, NERC demonstrates that the formal interpretation is consistent with the stated reliability goal of the Reliability Standards and the requirements thereunder. Set forth immediately below in Section IV(b) are the stakeholder ballot results and an explanation of how stakeholder comments were considered and addressed by the standard drafting team assembled to provide the interpretation.

The complete development record for the formal interpretation is set forth in **Exhibit C**. **Exhibit C** includes the request for the interpretation, the response to the request for the interpretation, the ballot pool and the final ballot results by registered ballot body members, stakeholder comments received during the balloting and an explanation of how those comments were considered.

#### **a. Justification of Formal Interpretation**

The stated purpose of TOP-002-2 — Normal Operations Planning is as follows: “[c]urrent operations plans and procedures are essential to being prepared for reliable operations, including response for unplanned events.” Requirement R11 of this Reliability Standard addresses the need to perform seasonal, next-day and current-day Bulk Electric System studies to determine System Operating Limits (“SOLs”). The specific language of this requirement is:

**R11.** The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject confidentiality requirements), and to its Reliability Coordinator.

On August 27, 2008, the Orlando Utilities Commission (“OUC”) requested that NERC provide a formal interpretation of TOP-002-2 — Normal Operations Planning:

Requirement R11. Specifically, OUC asked three questions:

1. Is the Transmission Operator required to conduct a “unique” study for each operating day, even when the actual or expected system conditions are identical to other days already studied? In other words, can a study be used for more than one day?
2. Are there specific actions required to implement a “study”? In other words, what constitutes a study?
3. Does the term, “to determine SOLs” as used in the first sentence of Requirement R11 mean the “determination of system operating limits” or does it mean the “identification of potential SOL violations?”

In supporting its request, OUC cited that the “uncertainty in the definitions of these terms and inconsistency in their application can result in either too little or unnecessary study work being performed. Unnecessary, redundant work with no benefit to reliability performed for the purpose of meeting an overly literal interpretation of the requirement will result in higher operating costs to the end users of the transmission system and the loss of opportunities to use those resources for more important reliability-related tasks. Clarification of these two terms (Study & SOL) will aide in focusing the proper resources on the proper work, maximizing both the reliability of the system and the investment of the end user.”

NERC assigned its Real-time Operations Standard Drafting Team (“RTOSDT”) to provide the requested interpretation. As to the first question, the drafting team stated that Requirement R11 mandates that each Transmission Operator review the state of its Transmission Operator area both in advance of each day and during each day. Moreover, each day must have “a study” that can be applied to it, but it is not necessary to generate a “unique” study for each day. Regarding the second question, the drafting team stated that



the requirement does not mandate a particular type of review or study. Rather, it may be based on complex computer studies or a manual reasonability review of previously existing study results. As for the last question, the drafting team responded that the requirement is meant to include both determining new limits and identifying potential “exceedances” of pre-defined SOLs. If system conditions indicate to the Transmission Operator that prior studies and SOLs may be outdated, then the Transmission Operator must conduct a study to identify SOLs for the new conditions.

NERC believes that the interpretation as presented directly supports the reliability purpose of the standard, that is, it provides that operations plans and procedures must prepare for reliable operations, including a response for unplanned events. This interpretation provides clarity and certainty to OUC as it implements its protocols in support of this important reliability objective.

#### **b. Summary of the Reliability Standard Development Proceedings**

On August 27, 2008, OUC requested a formal interpretation of Requirement R11 of TOP-002-2. In accordance with its *Reliability Standard Development Procedure*, NERC posted its response to the request for interpretation for a 30-day pre-ballot period that took place from September 18, 2008 – October 17, 2008. NERC conducted an initial ballot from October 21, 2008 – October 30, 2008. There was an 83.33% quorum with a 96.94% weighted segment vote. Eight negative votes were received with seven associated comments. This triggered the need to conduct a recirculation ballot after the interpretation team responded to the comments. Accordingly, a recirculation ballot was conducted from December 10, 2008 – December 19, 2008. The formal interpretation was

approved by the ballot pool with a weighted segment average of 97.47%, with 87.62% of the ballot pool voting.

In the comments received, several stakeholders questioned if the interpretation added to existing requirements with respect to identifying the SOL violations. The drafting team stated that no new requirements were intended and that the intent of the interpretation was to clarify the meaning of the term “studies” in Requirement R11 and what should be done regarding SOLs when system conditions change.

Respectfully submitted,

*/s/ Rebecca J. Michael*

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**Exhibit A**

**Formal interpretation submitted**

**TOP-002-2 — Normal Operations Planning, Requirement R11**

**Request for an Interpretation of a Reliability Standard**

Date submitted: 08/27/08

**Contact information for person requesting the interpretation:**

Name: Richard Kinas

Organization: Orlando Utilities Commission

Telephone: 407-384-4063

E-mail: rkinas@ouc.com

**Identify the standard that needs clarification:**

Standard Number: TOP-002-2 Normal Operations Planning

**Identify specifically what needs clarification:**

*Requirement Number and Text of Requirement:*

Requirement R11: The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.

1. Is the Transmission Operator required to conduct a “unique” study for each operating day, even when the actual or expected system conditions are identical to other days already studied? In other words, can a study be used for more than one day?
2. Are there specific actions required to implement a “study”? In other words, what constitutes a study?
3. Does the term, “to determine SOLs” as used in the first sentence of Requirement R11 mean the “determination of system operating limits” or does it mean the “identification of potential SOL violations?”

**Identify the material impact associated with this interpretation:**

*Identify the material impact to your organization or others caused by the lack of clarity or an incorrect interpretation of this standard.*

The uncertainty in the definitions of these terms and inconsistency in their application can

result in either to little or unnecessary study work being performed. Unnecessary, redundant work with no benefit to reliability performed for the purpose of meeting an overly literal interpretation of the requirement will result in higher operating costs to the end users of the transmission system and the loss of opportunities to use those resources for more important reliability-related tasks. Clarification of these two terms (Study & SOL) will aide in focusing the proper resources on the proper work, maximizing both the reliability of the system and the investment of the end user.

<b>Project 2008-13: Response to Request for an Interpretation of TOP-002-2, Requirement R11 for Orlando Utilities Commission</b>
The following interpretation of TOP-002-2 – Normal Operations Planning, Requirement R11 was developed by a subset of the Real-time Operations Standards Drafting Team on September 15, 2008.
<b>Requirement Number and Text of Requirement</b>
Requirement R11: The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.
<b>Question #1</b>
Is the Transmission Operator required to conduct a “unique” study for each operating day, even when the actual or expected system conditions are identical to other days already studied? In other words, can a study be used for more than one day?
<b>Response to Question #1</b>
Requirement R11 mandates that each Transmission Operator review (i.e., study) the state of its Transmission Operator area both in advance of each day and during each day. Each day must have “a” study that can be applied to it, but it is not necessary to generate a “unique” study for each day. Therefore, it is acceptable for a Transmission Operator to use a particular study for more than one day.
<b>Question #2</b>
Are there specific actions required to implement a “study”? In other words, what constitutes a study?
<b>Response to Question #2</b>
The requirement does not mandate a particular type of review or study. The review or study may be based on complex computer studies or a manual reasonability review of previously existing study results. The requirement is designed to ensure the Transmission Operator maintains sensitivity to what is happening or what is about to happen.
<b>Question #3</b>
Does the term, “to determine SOLs” as used in the first sentence of Requirement R11 mean the “determination of system operating limits” or does it mean the “identification of potential SOL violations?”
<b>Response to Question #3</b>
TOP-002-2 covers real-time and near-real-time studies. Requirement R11 is meant to include

both determining new limits and identifying potential “exceedances” of pre-defined SOLs. If system conditions indicate to the Transmission Operator that prior studies and SOLs may be outdated, TOP-002-2 mandates the Transmission Operator to conduct a study to identify SOLs for the new conditions. If the Transmission Operator determines that system conditions do not warrant a new study, the primary purpose of the review is to check that the previously defined (i.e., defined from the current SOLs in use, or the set defined by the planners) SOLs are not expected to be exceeded. As written, the standard provides the Transmission Operator discretion regarding when to look for new SOLs and when to rely on its current set of SOLs.

**Exhibit B**

**Affected Reliability Standard that includes the appended interpretation**

**TOP-002-2a — Normal Operations Planning**

**A. Introduction**

1. **Title:** Normal Operations Planning
2. **Number:** TOP-002-2a
3. **Purpose:** Current operations plans and procedures are essential to being prepared for reliable operations, including response for unplanned events.
4. **Applicability**
  - 4.1. Balancing Authority.
  - 4.2. Transmission Operator.
  - 4.3. Generator Operator.
  - 4.4. Load Serving Entity.
  - 4.5. Transmission Service Provider.
5. **Effective Date:** Immediately after approval of applicable regulatory authorities.

**B. Requirements**

- R1. Each Balancing Authority and Transmission Operator shall maintain a set of current plans that are designed to evaluate options and set procedures for reliable operation through a reasonable future time period. In addition, each Balancing Authority and Transmission Operator shall be responsible for using available personnel and system equipment to implement these plans to ensure that interconnected system reliability will be maintained.
- R2. Each Balancing Authority and Transmission Operator shall ensure its operating personnel participate in the system planning and design study processes, so that these studies contain the operating personnel perspective and system operating personnel are aware of the planning purpose.
- R3. Each Load Serving Entity and Generator Operator shall coordinate (where confidentiality agreements allow) its current-day, next-day, and seasonal operations with its Host Balancing Authority and Transmission Service Provider. Each Balancing Authority and Transmission Service Provider shall coordinate its current-day, next-day, and seasonal operations with its Transmission Operator.
- R4. Each Balancing Authority and Transmission Operator shall coordinate (where confidentiality agreements allow) its current-day, next-day, and seasonal planning and operations with neighboring Balancing Authorities and Transmission Operators and with its Reliability Coordinator, so that normal Interconnection operation will proceed in an orderly and consistent manner.
- R5. Each Balancing Authority and Transmission Operator shall plan to meet scheduled system configuration, generation dispatch, interchange scheduling and demand patterns.
- R6. Each Balancing Authority and Transmission Operator shall plan to meet unscheduled changes in system configuration and generation dispatch (at a minimum N-1 Contingency planning) in accordance with NERC, Regional Reliability Organization, subregional, and local reliability requirements.
- R7. Each Balancing Authority shall plan to meet capacity and energy reserve requirements, including the deliverability/capability for any single Contingency.
- R8. Each Balancing Authority shall plan to meet voltage and/or reactive limits, including the deliverability/capability for any single contingency.



- R9.** Each Balancing Authority shall plan to meet Interchange Schedules and ramps.
- R10.** Each Balancing Authority and Transmission Operator shall plan to meet all System Operating Limits (SOLs) and Interconnection Reliability Operating Limits (IROLs).
- R11.** The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.
- R12.** The Transmission Service Provider shall include known SOLs or IROLs within its area and neighboring areas in the determination of transfer capabilities, in accordance with filed tariffs and/or regional Total Transfer Capability and Available Transfer Capability calculation processes.
- R13.** At the request of the Balancing Authority or Transmission Operator, a Generator Operator shall perform generating real and reactive capability verification that shall include, among other variables, weather, ambient air and water conditions, and fuel quality and quantity, and provide the results to the Balancing Authority or Transmission Operator operating personnel as requested.
- R14.** Generator Operators shall, without any intentional time delay, notify their Balancing Authority and Transmission Operator of changes in capabilities and characteristics including but not limited to:
  - R14.1.** Changes in real and reactive output capabilities. (Retired August 1, 2007)
  - R14.1.** Changes in real output capabilities. (Effective August 1, 2007)
  - R14.2.** Automatic Voltage Regulator status and mode setting. (Retired August 1, 2007)
- R15.** Generation Operators shall, at the request of the Balancing Authority or Transmission Operator, provide a forecast of expected real power output to assist in operations planning (e.g., a seven-day forecast of real output).
- R16.** Subject to standards of conduct and confidentiality agreements, Transmission Operators shall, without any intentional time delay, notify their Reliability Coordinator and Balancing Authority of changes in capabilities and characteristics including but not limited to:
  - R16.1.** Changes in transmission facility status.
  - R16.2.** Changes in transmission facility rating.
- R17.** Balancing Authorities and Transmission Operators shall, without any intentional time delay, communicate the information described in the requirements R1 to R16 above to their Reliability Coordinator.
- R18.** Neighboring Balancing Authorities, Transmission Operators, Generator Operators, Transmission Service Providers and Load Serving Entities shall use uniform line identifiers when referring to transmission facilities of an interconnected network.
- R19.** Each Balancing Authority and Transmission Operator shall maintain accurate computer models utilized for analyzing and planning system operations.

**C. Measures**

- M1.** Each Balancing Authority and Transmission Operator shall have and provide upon request evidence that could include, but is not limited to, documented planning procedures, copies of

current day plans, copies of seasonal operations plans, or other equivalent evidence that will be used to confirm that it maintained a set of current plans. (Requirement 1 Part 1).

- M2.** Each Balancing Authority and Transmission Operator shall have and provide upon request evidence that could include, but is not limited to, copies of current day plans or other equivalent evidence that will be used to confirm that its plans address Requirements 5, 6, and 10.
- M3.** Each Balancing Authority shall have and provide upon request evidence that could include, but is not limited to, copies of current day plans or other equivalent evidence that will be used to confirm that its plans address Requirements 7, 8, and 9.
- M4.** Each Transmission Operator shall have and provide upon request evidence that could include, but is not limited to, its next-day, and current-day Bulk Electric System studies used to determine SOLs or other equivalent evidence that will be used to confirm that its studies reflect current system conditions. (Requirement 11 Part 1)
- M5.** Each Transmission Operator shall have and provide upon request evidence that could include, but is not limited to, voice recordings or transcripts of voice recordings, electronic communications, or other equivalent evidence that will be used to confirm that the results of Bulk Electric System studies were made available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator. (Requirement 11 Part 2)
- M6.** Each Generator Operator shall have and provide upon request evidence that, when requested by either a Transmission Operator or Balancing Authority, it performed a generating real and reactive capability verification and provided the results to the requesting entity in accordance with Requirement 13.
- M7.** Each Generator Operator shall have and provide upon request evidence that could include, but is not limited to, voice recordings or transcripts of voice recordings, electronic communications, or other equivalent evidence that will be used to confirm that without any intentional time delay, it notified its Balancing Authority and Transmission Operator of changes in real and reactive capabilities and AVR status. (Requirement 14)
- M8.** Each Generator Operator shall have and provide upon request evidence that could include, but is not limited to, voice recordings or transcripts of voice recordings, electronic communications, or other equivalent evidence that will be used to confirm that, on request, it provided a forecast of expected real power output to assist in operations planning. (Requirement 15)
- M9.** Each Transmission Operators shall have and provide upon request evidence that could include, but is not limited to, voice recordings or transcripts of voice recordings, electronic communications, or other equivalent evidence that will be used to confirm that, without any intentional time delay, it notified its Balancing Authority and Reliability Coordinator of changes in capabilities and characteristics. (Requirement 16)
- M10.** Each Balancing Authority, Transmission Operator, Generator Operator, Transmission Service Provider and Load Serving Entity shall have and provide upon request evidence that could include, but is not limited to, a list of interconnected transmission facilities and their line identifiers at each end or other equivalent evidence that will be used to confirm that it used uniform line identifiers when referring to transmission facilities of an interconnected network. (Requirement 18)

## **D. Compliance**

### **1. Compliance Monitoring Process**

**1.1. Compliance Monitoring Responsibility**

Regional Reliability Organizations shall be responsible for compliance monitoring.

**1.2. Compliance Monitoring and Reset Time Frame**

One or more of the following methods will be used to assess compliance:

- Self-certification (Conducted annually with submission according to schedule.)
- Spot Check Audits (Conducted anytime with up to 30 days notice given to prepare.)
- Periodic Audit (Conducted once every three years according to schedule.)
- Triggered Investigations (Notification of an investigation must be made within 60 days of an event or complaint of noncompliance. The entity will have up to 30 calendar days to prepare for the investigation. An entity may request an extension of the preparation period and the extension will be considered by the Compliance Monitor on a case-by-case basis.)

The Performance-Reset Period shall be 12 months from the last finding of non-compliance.

**1.3. Data Retention**

For Measures 1 and 2, each Transmission Operator shall have its current plans and a rolling 6 months of historical records (evidence).

For Measures 1, 2, and 3 each Balancing Authority shall have its current plans and a rolling 6 months of historical records (evidence).

For Measure 4, each Transmission Operator shall keep its current plans (evidence).

For Measures 5 and 9, each Transmission Operator shall keep 90 days of historical data (evidence).

For Measures 6, 7 and 8, each Generator Operator shall keep 90 days of historical data (evidence).

For Measure 10, each Balancing Authority, Transmission Operator, Generator Operator, Transmission Service Provider, and Load-serving Entity shall have its current list interconnected transmission facilities and their line identifiers at each end or other equivalent evidence as evidence.

If an entity is found non-compliant the entity shall keep information related to the noncompliance until found compliant or for two years plus the current year, whichever is longer.

Evidence used as part of a triggered investigation shall be retained by the entity being investigated for one year from the date that the investigation is closed, as determined by the Compliance Monitor,

The Compliance Monitor shall keep the last periodic audit report and all supporting compliance data

**1.4. Additional Compliance Information**

None.

**2. Levels of Non-Compliance for Balancing Authorities:**

- 2.1. **Level 1:** Did not use uniform line identifiers when referring to transmission facilities of an interconnected network as specified in R18.
  - 2.2. **Level 2:** Not applicable.
  - 2.3. **Level 3:** Not applicable.
  - 2.4. **Level 4:** There shall be a separate Level 4 non-compliance, for every one of the following requirements that is in violation:
    - 2.4.1 Did not maintain an updated set of current-day plans as specified in R1.
    - 2.4.2 Plans did not meet one or more of the requirements specified in R5 through R10.
- 3. **Levels of Non-Compliance for Transmission Operators**
  - 3.1. **Level 1:** Did not use uniform line identifiers when referring to transmission facilities of an interconnected network as specified in R18.
  - 3.2. **Level 2:** Not applicable.
  - 3.3. **Level 3:** One or more of Bulk Electric System studies were not made available as specified in R11.
  - 3.4. **Level 4:** There shall be a separate Level 4 non-compliance, for every one of the following requirements that is in violation:
    - 3.4.1 Did not maintain an updated set of current-day plans as specified in R1.
    - 3.4.2 Plans did not meet one or more of the requirements in R5, R6, and R10.
    - 3.4.3 Studies not updated to reflect current system conditions as specified in R11.
    - 3.4.4 Did not notify its Balancing Authority and Reliability Coordinator of changes in capabilities and characteristics as specified in R16.
- 4. **Levels of Non-Compliance for Generator Operators:**
  - 4.1. **Level 1:** Did not use uniform line identifiers when referring to transmission facilities of an interconnected network as specified in R18.
  - 4.2. **Level 2:** Not applicable.
  - 4.3. **Level 3:** Not applicable.
  - 4.4. **Level 4:** There shall be a separate Level 4 non-compliance, for every one of the following requirements that is in violation:
    - 4.4.1 Did not verify and provide a generating real and reactive capability verification and provide the results to the requesting entity as specified in R13.
    - 4.4.2 Did not notify its Balancing Authority and Transmission Operator of changes in capabilities and characteristics as specified in R14.
    - 4.4.3 Did not provide a forecast of expected real power output to assist in operations planning as specified in R15.
- 5. **Levels of Non-Compliance for Transmission Service Providers and Load-serving Entities:**
  - 5.1. **Level 1:** Did not use uniform line identifiers when referring to transmission facilities of an interconnected network as specified in R18.
  - 5.2. **Level 2:** Not applicable.

5.3. Level 3: Not applicable.

5.4. Level 4: Not applicable.

**E. Regional Differences**

None identified.

**Version History**

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed “Proposed” from Effective Date	Errata
1	November 1, 2006	Adopted by Board of Trustees	Revised
2	June 14, 2007	Fixed typo in R11., (subject to ...)	Errata
2a	March 3, 2009	Added Appendix 1 – Interpretation of R11 approved by BOT on February 10, 2009	Revised

## **Appendix 1**

### **Interpretation of Requirement R11**

#### Requirement Number and Text of Requirement

Requirement R11: The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.

#### Question #1

Is the Transmission Operator required to conduct a “unique” study for each operating day, even when the actual or expected system conditions are identical to other days already studied? In other words, can a study be used for more than one day?

#### Response to Question #1

Requirement R11 mandates that each Transmission Operator review (i.e., study) the state of its Transmission Operator area both in advance of each day and during each day. Each day must have “a” study that can be applied to it, but it is not necessary to generate a “unique” study for each day. Therefore, it is acceptable for a Transmission Operator to use a particular study for more than one day.

#### Question #2

Are there specific actions required to implement a “study”? In other words, what constitutes a study?

#### Response to Question #2

The requirement does not mandate a particular type of review or study. The review or study may be based on complex computer studies or a manual reasonability review of previously existing study results. The requirement is designed to ensure the Transmission Operator maintains sensitivity to what is happening or what is about to happen.

#### Question #3

Does the term, “to determine SOLs” as used in the first sentence of Requirement R11 mean the “determination of system operating limits” or does it mean the “identification of potential SOL violations?”

#### Response to Question #3

TOP-002-2 covers real-time and near-real-time studies. Requirement R11 is meant to include both determining new limits and identifying potential “exceedances” of pre-defined SOLs. If system conditions indicate to the Transmission Operator that prior studies and SOLs may be outdated, TOP-002-2 mandates the Transmission Operator to conduct a study to identify SOLs for the new conditions. If the Transmission Operator determines that system conditions do not warrant a new study, the primary purpose of the review is to check that the previously defined (i.e., defined from the current SOLs in use, or the set defined by the planners) SOLs are not expected to be exceeded. As written, the standard provides the Transmission Operator discretion regarding when to look for new SOLs and when to rely on its current set of SOLs.

**Exhibit C**

**The complete development record of the formal interpretation**

**TOP-002-2 — Normal Operations Planning, Requirement R11**

## Project 2008-13

### Interpretation – TOP-002-2 – Normal Operations Planning

Registered Ballot Body | Drafting Team Rosters | Related Files

#### Status

The Standards Committee has posted the results from the 10-day recirculation ballot window for the request for interpretation from Orlando Utilities Commission for TOP-002-2.

The request asks:

1. Is the Transmission Operator required to conduct a "unique" study for each operating day, even when the actual or expected system conditions are identical to other days already studied? In other words, can a study be used for more than one day?
2. Are there specific actions required to implement a "study"? In other words, what constitutes a study?
3. Does the term, "to determine SOLs" as used in the first sentence of Requirement 11 mean the "determination of system operating limits" or does it mean the "identification of potential SOL violations"?

#### Purpose/Industry Need

In accordance with the Reliability Standards Development Procedure, the interpretation must be posted for a 30-day pre-ballot review, and then balloted. There is no public comment period for an interpretation. Balloting will be conducted following the same method used for balloting standards. If the interpretation is approved by its ballot pool, then the interpretation will be appended to the standard and will become effective when adopted by the NERC Board of Trustees and approved by the applicable regulatory authorities. The interpretation will remain appended to the standard until the standard is revised through the normal standards development process. When the standard is revised, the clarifications provided by the interpretation will be incorporated into the revised standard.

Proposed Standard	Supporting Documents	Comment Period	Comments Received	Response to Comments
<p>Announcement (9)</p> <p>Interpretation (10)</p> <p>TOP-002-2a Normal Operations Planning Posted for 10-day Recirculation Ballot Window</p>	<p>Orlando Utilities Commission</p> <p>Request for Interpretation (11)</p> <p>TOP-002-2a</p>	<p>12/10/08 - 12/19/08 (closed)</p> <p>10-day Recirculation Ballot</p>		<p>Announcement (12)</p> <p>Ballot Results (13)</p>
<p>Announcement (4)</p>	<p>Orlando Utilities</p>	<p>10/21/08 – 10/30/08</p>	<p>Ballot (7) Results</p>	



<p style="text-align: center;"><a href="#">Interpretation (5)</a></p> <p style="text-align: center;">TOP-002-2a Normal Operations Planning Posted for 10-day Ballot Window</p>	<p>Commission</p> <p style="text-align: center;"><a href="#">Request for Interpretation (6)</a></p> <p>TOP-002-2a</p>	<p>(closed)</p> <p>Ballot Window</p>		<p style="text-align: center;"><a href="#">Response to Comments (8)</a></p>
<p style="text-align: center;"><a href="#">Announcement (1)</a></p> <p style="text-align: center;"><a href="#">Interpretation (2)</a></p> <p style="text-align: center;">TOP-002-2a Normal Operations Planning Posted for 30-day Pre-ballot Review</p>	<p>Orlando Utilities Commission</p> <p style="text-align: center;"><a href="#">Request for Interpretation (3)</a></p> <p>TOP-002-2a</p>	<p>09/18/08 – 10/17/08 (closed)</p> <p>Join Ballot Pool</p>		

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NORTH AMERICAN ELECTRIC  
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## Standards Announcement

Ballot Pool and Pre-ballot Window Open  
September 18–October 17, 2008

Now available at: <https://standards.nerc.net/BallotPool.aspx>

### Interpretation of TOP-002-2 Requirement R11 (Project 2008-13)

A ballot pool and pre-ballot window for the interpretation of TOP-002-2 – Normal Operations Planning, Requirement R11 (requested by the Orlando Utilities Commission) is now open until **8:00 p.m. EDT on October 17, 2008**.

Orlando Utilities Commission asked for clarification regarding the studies of system operating limits (SOLs) required in Requirement R11. A subset of the Real-time Operations Standard Drafting Team drafted a response to address the questions. A summary of the questions is listed below:

1. Can studies be reused?
2. What constitutes a study?
3. Does the phrase “to determine SOLs” include the identification of potential SOL violations?

The request and interpretation can be found on the following page:

[http://www.nerc.com/filez/standards/Project2008-13\\_TOP-002\\_Interpretation\\_OUC.html](http://www.nerc.com/filez/standards/Project2008-13_TOP-002_Interpretation_OUC.html)

During the pre-ballot window, members of the ballot pool may communicate with one another by using their “ballot pool list server.” The list server for this ballot pool is: [bp-RFI\\_TOP-002\\_OUC\\_in@nerc.com](mailto:bp-RFI_TOP-002_OUC_in@nerc.com). Once the balloting begins, ballot pool members are prohibited from using the ballot pool list servers.

### Standards Development Process

The [Reliability Standards Development Procedure](#) contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate.

*For more information or assistance,  
please contact Shaun Streeter at [shaun.streeter@nerc.net](mailto:shaun.streeter@nerc.net) or at 609.452.8060.*

North American Electric Reliability Corporation  
116-390 Village Blvd.  
Princeton, NJ 08540  
609.452.8060 | [www.nerc.com](http://www.nerc.com)

## Request for an Interpretation of a Reliability Standard

Date submitted: 08/27/08

### Contact information for person requesting the interpretation:

Name: Richard Kinas

Organization: Orlando Utilities Commission

Telephone: 407-384-4063

E-mail: rkinas@ouc.com

### Identify the standard that needs clarification:

Standard Number: TOP-002-2 Normal Operations Planning

### Identify specifically what needs clarification:

*Requirement Number and Text of Requirement:*

Requirement R11: The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.

1. Is the Transmission Operator required to conduct a "unique" study for each operating day, even when the actual or expected system conditions are identical to other days already studied? In other words, can a study be used for more than one day?
2. Are there specific actions required to implement a "study"? In other words, what constitutes a study?
3. Does the term, "to determine SOLs" as used in the first sentence of Requirement R11 mean the "determination of system operating limits" or does it mean the "identification of potential SOL violations?"

### Identify the material impact associated with this interpretation:

*Identify the material impact to your organization or others caused by the lack of clarity or an incorrect interpretation of this standard.*

The uncertainty in the definitions of these terms and inconsistency in their application can

result in either to little or unnecessary study work being performed. Unnecessary, redundant work with no benefit to reliability performed for the purpose of meeting an overly literal interpretation of the requirement will result in higher operating costs to the end users of the transmission system and the loss of opportunities to use those resources for more important reliability-related tasks. Clarification of these two terms (Study & SOL) will aide in focusing the proper resources on the proper work, maximizing both the reliability of the system and the investment of the end user.

Project 2008-13: Response to Request for an Interpretation of TOP-002-2, Requirement R11 for Orlando Utilities Commission	
The following interpretation of TOP-002-2 – Normal Operations Planning, Requirement R11 was developed by a subset of the Real-time Operations Standards Drafting Team on September 15, 2008.	
Requirement Number and Text of Requirement	
Requirement R11: The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.	
Question #1	
Is the Transmission Operator required to conduct a “unique” study for each operating day, even when the actual or expected system conditions are identical to other days already studied? In other words, can a study be used for more than one day?	
Response to Question #1	
Requirement R11 mandates that each Transmission Operator review (i.e., study) the state of its Transmission Operator area both in advance of each day and during each day. Each day must have “a” study that can be applied to it, but it is not necessary to generate a “unique” study for each day. Therefore, it is acceptable for a Transmission Operator to use a particular study for more than one day.	
Question #2	
Are there specific actions required to implement a “study”? In other words, what constitutes a study?	
Response to Question #2	
The requirement does not mandate a particular type of review or study. The review or study may be based on complex computer studies or a manual reasonability review of previously existing study results. The requirement is designed to ensure the Transmission Operator maintains sensitivity to what is happening or what is about to happen.	
Question #3	
Does the term, “to determine SOLs” as used in the first sentence of Requirement R11 mean the “determination of system operating limits” or does it mean the “identification of potential SOL violations?”	
Response to Question #3	
TOP-002-2 covers real-time and near-real-time studies. Requirement R11 is meant to include	

both determining new limits and identifying potential “exceedances” of pre-defined SOLs. If system conditions indicate to the Transmission Operator that prior studies and SOLs may be outdated, TOP-002-2 mandates the Transmission Operator to conduct a study to identify SOLs for the new conditions. If the Transmission Operator determines that system conditions do not warrant a new study, the primary purpose of the review is to check that the previously defined (i.e., defined from the current SOLs in use, or the set defined by the planners) SOLs are not expected to be exceeded. As written, the standard provides the Transmission Operator discretion regarding when to look for new SOLs and when to rely on its current set of SOLs.

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Telephone: 407-384-4063

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NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

## Standards Announcement

### Initial Ballot Window

October 21–30, 2008

Will be available at: <https://standards.nerc.net/CurrentBallots.aspx>

### **Initial Ballot for Interpretation of TOP-002-2 Requirement R11 (Project 2008-13)**

An initial ballot window for the interpretation of TOP-002-2 — Normal Operations Planning, Requirement R11 (requested by the Orlando Utilities Commission) will **open 8 a.m. EDT on October 21, 2008** and run **until 8 p.m. EDT on October 30, 2008**.

Orlando Utilities Commission asked for clarification regarding the studies of system operating limits (SOLs) required in Requirement R11. A subset of the Real-time Operations Standard Drafting Team drafted a response to address the questions. A summary of the questions is listed below:

1. Can studies be reused?
2. What constitutes a study?
3. Does the phrase “to determine SOLs” include the identification of potential SOL violations?

The request and interpretation can be found on the following page:

[http://www.nerc.com/filez/standards/Project2008-13\\_TOP-002\\_Interpretation\\_OUC.html](http://www.nerc.com/filez/standards/Project2008-13_TOP-002_Interpretation_OUC.html)

### **Standards Development Process**

The [Reliability Standards Development Procedure](#) contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate.

*For more information or assistance, please contact Shaun Streeter,  
Standards Program Administrator, at [shaun.streeter@nerc.net](mailto:shaun.streeter@nerc.net) or at 609.452.8060*

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Date submitted: 08/27/08

### Contact information for person requesting the interpretation:

Name: Richard Kinas

Organization: Orlando Utilities Commission

Telephone: 407-384-4063

E-mail: rkinas@ouc.com

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### Identify specifically what needs clarification:

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Home Page

**Ballot Results**

<b>Ballot Name:</b>	Request for Interpretation - TOP-002-2 - Orlando Utilities Commission_in
<b>Ballot Period:</b>	10/21/2008 - 10/30/2008
<b>Ballot Type:</b>	Initial
<b>Total # Votes:</b>	175
<b>Total Ballot Pool:</b>	210
<b>Quorum:</b>	<b>83.33 % The Quorum has been reached</b>
<b>Weighted Segment Vote:</b>	96.94 %
<b>Ballot Results:</b>	<b>The standard will proceed to recirculation ballot.</b>

**Summary of Ballot Results**

Segment	Ballot Pool	Segment Weight	Affirmative		Negative		Abstain # Votes	No Vote
			# Votes	Fraction	# Votes	Fraction		
1 - Segment 1.	63	1	47	0.922	4	0.078	2	10
2 - Segment 2.	8	0.8	8	0.8	0	0	0	0
3 - Segment 3.	51	1	39	0.951	2	0.049	1	9
4 - Segment 4.	12	0.9	9	0.9	0	0	0	3
5 - Segment 5.	37	1	26	0.963	1	0.037	3	7
6 - Segment 6.	24	1	18	0.947	1	0.053	0	5
7 - Segment 7.	0	0	0	0	0	0	0	0
8 - Segment 8.	2	0.2	2	0.2	0	0	0	0
9 - Segment 9.	6	0.5	5	0.5	0	0	0	1
10 - Segment 10.	7	0.7	7	0.7	0	0	0	0
<b>Totals</b>	<b>210</b>	<b>7.1</b>	<b>161</b>	<b>6.883</b>	<b>8</b>	<b>0.217</b>	<b>6</b>	<b>35</b>

**Individual Ballot Pool Results**

Segment	Organization	Member	Ballot	Comments
1	Ameren Services	Kirit S. Shah	Affirmative	
1	American Electric Power	Paul B. Johnson	Affirmative	
1	American Transmission Company, LLC	Jason Shaver	Abstain	<a href="#">View</a>
1	Arizona Public Service Co.	Cary B. Deise	Affirmative	
1	Associated Electric Cooperative, Inc.	John Bussman	Affirmative	
1	Avista Corp.	Scott Kinney		
1	Bonneville Power Administration	Donald S. Watkins	Negative	<a href="#">View</a>

1	Brazos Electric Power Cooperative, Inc.	Tony Kroskey	Affirmative	
1	CenterPoint Energy	Paul Rocha	Affirmative	
1	Central Maine Power Company	Brian Conroy	Affirmative	
1	City of Tacoma, Department of Public Utilities, Light Division, dba Tacoma Power	Alan L Cooke	Affirmative	
1	City Utilities of Springfield, Missouri	Jeff Knottek	Affirmative	
1	Consolidated Edison Co. of New York	Christopher L de Graffenried	Affirmative	
1	Dairyland Power Coop.	Robert W. Roddy	Affirmative	
1	Dominion Virginia Power	William L. Thompson	Affirmative	
1	Duke Energy Carolina	Douglas E. Hils	Affirmative	
1	E.ON U.S. LLC	Larry Monday	Affirmative	
1	El Paso Electric Company	Dennis Malone		
1	Entergy Corporation	George R. Bartlett	Affirmative	
1	Exelon Energy	John J. Blazekovich	Affirmative	
1	Farmington Electric Utility System	Alan Glazner	Affirmative	
1	FirstEnergy Energy Delivery	Robert Martinko	Affirmative	
1	Florida Keys Electric Cooperative Assoc.	Dennis Minton	Negative	
1	Florida Power & Light Co.	C. Martin Mennes	Affirmative	
1	Great River Energy	Gordon Pietsch		
1	Hoosier Energy Rural Electric Cooperative, Inc.	Damon Holladay	Affirmative	
1	Hydro One Networks, Inc.	Ajay Garg	Affirmative	
1	Hydro-Quebec TransEnergie	Julien Gagnon	Affirmative	
1	Idaho Power Company	Ronald D. Schellberg		
1	Kansas City Power & Light Co.	Jim Useldinger		
1	Lakeland Electric	Larry E Watt	Affirmative	
1	Lincoln Electric System	Doug Bantam	Affirmative	
1	Lower Colorado River Authority	Martyn Turner	Affirmative	
1	Manitoba Hydro	Michelle Rheault	Affirmative	<a href="#">View</a>
1	Minnesota Power, Inc.	Carol Gerou		
1	National Grid	Michael J Ranalli	Negative	<a href="#">View</a>
1	New York Power Authority	Ralph Ruffano	Affirmative	<a href="#">View</a>
1	New York State Electric & Gas Corp.	Henry G. Masti	Affirmative	
1	Northeast Utilities	David H. Boguslawski	Negative	<a href="#">View</a>
1	Northern Indiana Public Service Co.	Joseph Dobes	Affirmative	
1	Oklahoma Gas and Electric Co.	Marvin E VanBebber	Abstain	
1	Orlando Utilities Commission	Brad Chase	Affirmative	
1	Otter Tail Power Company	Lawrence R. Larson	Affirmative	
1	Pacific Gas and Electric Company	Chifong L. Thomas	Affirmative	
1	PacifiCorp	Robert Williams	Affirmative	
1	Platte River Power Authority	John C. Collins	Affirmative	
1	Potomac Electric Power Co.	Richard J. Kafka	Affirmative	
1	PP&L, Inc.	Ray Mammarella		
1	Progress Energy Carolinas	Sammy Roberts	Affirmative	
1	Public Service Electric and Gas Co.	Kenneth D. Brown	Affirmative	
1	Puget Sound Energy, Inc.	Catherine Koch	Affirmative	
1	Sacramento Municipal Utility District	Dilip Mahendra	Affirmative	
1	Salt River Project	Robert Kondziolka	Affirmative	
1	Santee Cooper	Terry L. Blackwell	Affirmative	
1	SaskPower	Wayne Guttormson		
1	Seattle City Light	Pawel Krupa	Affirmative	
1	Sierra Pacific Power Co.	Richard Salgo	Affirmative	
1	Southern California Edison Co.	Dana Cabbell		
1	Southern Company Services, Inc.	Horace Stephen Williamson	Affirmative	
1	Southwest Transmission Cooperative, Inc.	James L. Jones	Affirmative	
1	Tampa Electric Co.	Thomas J. Szelistowski		
1	Western Area Power Administration	Robert Temple	Affirmative	
1	Xcel Energy, Inc.	Gregory L. Pieper	Affirmative	
2	Alberta Electric System Operator	Anita Lee	Affirmative	
2	California ISO	David Hawkins	Affirmative	
2	Electric Reliability Council of Texas, Inc.	Roy D. McCoy	Affirmative	
2	ISO New England, Inc.	Kathleen Goodman	Affirmative	<a href="#">View</a>
2	Midwest ISO, Inc.	Terry Bilke	Affirmative	
2	New Brunswick System Operator	Alden Briggs	Affirmative	
2	New York Independent System Operator	Gregory Campoli	Affirmative	
2	PJM Interconnection, L.L.C.	Tom Bowe	Affirmative	
3	Alabama Power Company	Robin Hurst	Affirmative	

3	Ameren Services	Mark Peters		
3	American Electric Power	Raj Rana		
3	Arizona Public Service Co.	Thomas R. Glock	Affirmative	
3	Atlantic City Electric Company	James V. Petrella	Affirmative	
3	Avista Corp.	Robert Lafferty	Abstain	
3	BC Hydro and Power Authority	Pat G. Harrington		
3	Bonneville Power Administration	Rebecca Berdahl	Negative	<a href="#">View</a>
3	City of Tallahassee	Rusty S. Foster	Affirmative	
3	City Public Service of San Antonio	Edwin Les Barrow	Affirmative	
3	Commonwealth Edison Co.	Stephen Lesniak	Affirmative	
3	Consolidated Edison Co. of New York	Peter T Yost	Affirmative	
3	Consumers Energy	David A. Lapinski	Affirmative	
3	Delmarva Power & Light Co.	Michael R. Mayer	Affirmative	
3	Dominion Resources, Inc.	Jalal (John) Babik	Affirmative	
3	Duke Energy Carolina	Henry Ernst-Jr	Affirmative	
3	Entergy Services, Inc.	Matt Wolf	Affirmative	
3	FirstEnergy Solutions	Joanne Kathleen Borrell	Affirmative	
3	Florida Power & Light Co.	W. R. Schoneck	Affirmative	
3	Florida Power Corporation	Lee Schuster	Affirmative	
3	Georgia Power Company	Leslie Sibert	Affirmative	
3	Grays Harbor PUD	Wesley W Gray	Affirmative	
3	Great River Energy	Sam Kokkinen		
3	Gulf Power Company	Gwen S Frazier	Affirmative	
3	Hydro One Networks, Inc.	Michael D. Penstone	Affirmative	
3	Kissimmee Utility Authority	Gregory David Woessner	Affirmative	
3	Lakeland Electric	Mace Hunter	Affirmative	
3	Lincoln Electric System	Bruce Merrill	Affirmative	
3	Louisville Gas and Electric Co.	Charles A. Freibert	Affirmative	
3	Manitoba Hydro	Ronald Dacombe	Affirmative	<a href="#">View</a>
3	MidAmerican Energy Co.	Thomas C. Mielnik		
3	Mississippi Power	Don Horsley	Affirmative	
3	Municipal Electric Authority of Georgia	Steven M. Jackson		
3	New York Power Authority	Michael Lupo	Affirmative	<a href="#">View</a>
3	Niagara Mohawk (National Grid Company)	Michael Schiavone	Negative	<a href="#">View</a>
3	Northern Indiana Public Service Co.	William SeDoris	Affirmative	
3	Orlando Utilities Commission	Ballard Keith Mutters	Affirmative	
3	PECO Energy an Exelon Co.	John J. McCawley	Affirmative	
3	Platte River Power Authority	Terry L Baker	Affirmative	
3	Potomac Electric Power Co.	Robert Reuter	Affirmative	
3	Progress Energy Carolinas	Sam Waters	Affirmative	
3	Public Service Electric and Gas Co.	Jeffrey Mueller	Affirmative	
3	Public Utility District No. 2 of Grant County	Greg Lange	Affirmative	
3	Salt River Project	John T. Underhill	Affirmative	
3	San Diego Gas & Electric	Scott Peterson		
3	Santee Cooper	Zack Dusenbury	Affirmative	
3	Seattle City Light	Dana Wheelock	Affirmative	
3	Tampa Electric Co.	Ronald L. Donahey		
3	Wisconsin Electric Power Marketing	James R. Keller	Affirmative	
3	Wisconsin Public Service Corp.	James Maenner	Affirmative	
3	Xcel Energy, Inc.	Michael Ibold		
4	Alliant Energy Corp. Services, Inc.	Kenneth Goldsmith	Affirmative	
4	Consumers Energy	David Frank Ronk	Affirmative	
4	Florida Municipal Power Agency	Thomas Reedy	Affirmative	
4	Madison Gas and Electric Co.	Joseph G. DePoorter	Affirmative	
4	Northern California Power Agency	Fred E. Young	Affirmative	
4	Ohio Edison Company	Douglas Hohlbaugh	Affirmative	
4	Old Dominion Electric Coop.	Mark Ringhausen		
4	Public Utility District No. 1 of Douglas County	Henry E. LuBean		
4	Seattle City Light	Hao Li	Affirmative	
4	Seminole Electric Cooperative, Inc.	Steven R. Wallace	Affirmative	
4	Wisconsin Energy Corp.	Anthony Jankowski	Affirmative	
4	Wisconsin Public Power Inc.	Pat Connors		
5	AEP Service Corp.	Brock Ondayko	Affirmative	
5	Amerenue	Sam Dwyer	Affirmative	
5	Avista Corp.	Edward F. Groce	Abstain	
5	Bonneville Power Administration	Francis J. Halpin	Negative	<a href="#">View</a>
5	City of Tallahassee	Alan Gale	Affirmative	



5	City Water, Light & Power of Springfield	Karl E. Kohlrus	Affirmative	
5	Colmac Clarion/Piney Creek LP	Harvie D. Beavers	Affirmative	
5	Conectiv Energy Supply, Inc.	Richard K. Douglass	Affirmative	
5	Consumers Energy	James B Lewis	Affirmative	
5	Dairyland Power Coop.	Warren Schaefer	Affirmative	
5	Detroit Edison Company	Ronald W. Bauer	Affirmative	
5	Dominion Resources, Inc.	Mike Garton	Affirmative	
5	Entergy Corporation	Stanley M Jaskot	Affirmative	
5	Florida Power & Light Co.	Robert A. Birch		
5	Gainesville Regional Utilities	Mark Bennett	Affirmative	
5	Great River Energy	Cynthia E Sulzer		
5	JEA	Donald Gilbert		
5	Lincoln Electric System	Dennis Florom	Affirmative	
5	Louisville Gas and Electric Co.	Charlie Martin	Affirmative	
5	Manitoba Hydro	Mark Aikens	Affirmative	<a href="#">View</a>
5	New York Power Authority	Gerald Mannarino	Affirmative	<a href="#">View</a>
5	Northern States Power Co.	Liam Noailles		
5	Orlando Utilities Commission	Richard Kinas	Affirmative	
5	PPL Generation LLC	Mark A. Heimbach	Affirmative	
5	Progress Energy Carolinas	Wayne Lewis	Affirmative	
5	PSEG Power LLC	Thomas Piascik	Affirmative	
5	Reliant Energy Services	Thomas J. Bradish	Affirmative	
5	Salt River Project	Glen Reeves	Affirmative	
5	Seattle City Light	Michael J. Haynes	Affirmative	
5	Seminole Electric Cooperative, Inc.	Brenda K. Atkins		
5	South Mississippi Electric Power Association	Jerry W Johnson		
5	Southern California Edison Co.	David Schiada	Affirmative	
5	Southern Company Services, Inc.	Roger D. Green		
5	Tampa Electric Co.	Frank L Busot	Abstain	
5	U.S. Army Corps of Engineers Northwestern Division	Karl Bryan	Affirmative	
5	U.S. Bureau of Reclamation	Martin Bauer	Abstain	
5	Wisconsin Electric Power Co.	Linda Horn	Affirmative	
6	AEP Marketing	Edward P. Cox	Affirmative	
6	Ameren Energy Marketing Co.	Jennifer Richardson	Affirmative	
6	Bonneville Power Administration	Brenda S. Anderson	Negative	<a href="#">View</a>
6	Consolidated Edison Co. of New York	Nickesha P Carrol	Affirmative	
6	Dominion Resources, Inc.	Louis S Slade	Affirmative	
6	Entergy Services, Inc.	William Franklin	Affirmative	
6	Eugene Water & Electric Board	Daniel Mark Bedbury	Affirmative	
6	FirstEnergy Solutions	Mark S Travaglianti	Affirmative	
6	Florida Municipal Power Agency	Robert C. Williams		
6	Lincoln Electric System	Eric Ruskamp	Affirmative	
6	Louisville Gas and Electric Co.	Daryn Barker	Affirmative	
6	Manitoba Hydro	Daniel Prowse	Affirmative	<a href="#">View</a>
6	New York Power Authority	Thomas Papadopoulos	Affirmative	
6	PP&L, Inc.	Thomas Hyzinski		
6	Progress Energy	James Eckelkamp	Affirmative	
6	PSEG Energy Resources & Trade LLC	James D. Hebson	Affirmative	
6	Public Utility District No. 1 of Chelan County	Hugh A. Owen		
6	Salt River Project	Mike Hummel	Affirmative	
6	Santee Cooper	Suzanne Ritter	Affirmative	
6	Seminole Electric Cooperative, Inc.	Trudy S. Novak	Affirmative	
6	Southern California Edison Co.	Marcus V Lotto	Affirmative	
6	Tampa Electric Co.	Jose Benjamin Quintas		
6	Western Area Power Administration - UGP Marketing	John Stonebarger	Affirmative	
6	Xcel Energy, Inc.	David F. Lemmons		
8	JDRJC Associates	Jim D. Cyrulewski	Affirmative	
8	Volkman Consulting, Inc.	Terry Volkman	Affirmative	
9	California Energy Commission	William Mitchell Chamberlain	Affirmative	
9	Commonwealth of Massachusetts Department of Public Utilities	Donald E. Nelson	Affirmative	
9	National Association of Regulatory Utility Commissioners	Diane J. Barney	Affirmative	
9	Oregon Public Utility Commission	Jerome Murray	Affirmative	<a href="#">View</a>
9	Public Utilities Commission of Ohio	Klaus Lambeck	Affirmative	
9	Utah Public Service Commission	Ric Campbell		



10	Electric Reliability Council of Texas, Inc.	Kent Saathoff	Affirmative	
10	Midwest Reliability Organization	Larry Brusseau	Affirmative	
10	New York State Reliability Council	Alan Adamson	Affirmative	
10	Northeast Power Coordinating Council, Inc.	Guy Zito	Affirmative	<a href="#">View</a>
10	SERC Reliability Corporation	Carter B. Edge	Affirmative	
10	Southwest Power Pool	Charles H. Yeung	Affirmative	
10	Western Electricity Coordinating Council	Louise McCarren	Affirmative	

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## Consideration of Comments on Initial Ballot — TOP-002-2 — Orlando Utilities Commission Request for Interpretation (Project 2008-13)

### Summary Consideration:

Several stakeholders questioned if the interpretation added to the existing requirements. The drafting team states that no new requirements are intended. The intent of the interpretation is to clarify the meaning of the term “studies” in Requirement R11 and what should be done regarding SOLs when system conditions change.

Requirement R11 does not require new, detailed studies when system conditions remain essentially unchanged. The requirement does, however, require the TOP to determine whether any new SOLs might occur if conditions have changed. This determination is not just checking to see if the existing known set of SOLs has been newly exceeded, but includes a check to see if SOLs have developed that were not in the existing set.

Voter	Entity	Segment	Vote	Comment
Jason Shaver	American Transmission Company, LLC	1	Abstain	The response to Question Two changes the intent of requirement 11 and has the potential of reducing reliability. We are concerned that the interpretation lowers the bar by stating that a review of a "next-day study" qualifies as a study. We do agree that the requirement does not specify the type of study that needs to be performed but that it has to be a study not a review. ATC suggests that the response to question two be re-worded and the language stating that a review is equal to a study be deleted.
<p><b>Response:</b> Question 2 asked what constitutes a study. Study is not a defined term and has a wide-ranging meaning to the industry based on the context of its use. Sometimes a study refers to a long-term transmission planning study that involves months of effort, and sometimes a study means simply reviewing the validity of an existing set of results. It does not necessarily mean that new inputs need to be gathered, models updated, and power flows cranked, particularly if the inputs and model have not changed since the last set of results. The TOP has the discretion to determine which type of study is necessary, and this interpretation does not modify, redact, or add to the requirement.</p>				
Donald S. Watkins	Bonneville Power Administration	1	Negative	We believe this request is important and valuable to many and it is our opinion that the responses to questions 1 and 2 provide improved clarity that is consistent with the standard. However, we found response to question 3. to be unsupported by any language in the standard. We believe the term "to determine SOLs" in Requirement R11 means "determination of system operating limits". The current interpretation for question 3 appears to suggest that R11 requires that the TOP also check to see if there are patterns that would result in violations of the applicable SOL. There is no explicit language in the standard which would obligate the TOP to this type of investigation. We believe that "Identification of potential SOL violations" is outside the scope of this requirement. There are tens of thousands (or more) possible events that could cause a flow to exceed an SOL. A study defines what the SOL is. Once a defined SOL is established, it is the operators job to keep flows under that limit or to bring the flows back under the limit within some set maximum
Rebecca Berdahl		3		
Francis J. Halpin		5		
Brenda S. Anderson		6		

**Consideration of Comments on Initial Ballot — TOP-002-2 — Orlando Utilities Commission Request for Interpretation (Project 2008-13)**

Voter	Entity	Segment	Vote	Comment
				<p>amount of time should the limit be exceeded. We therefore recommend that the interpretation for question 3 be limited, based on the explicit language in the R.11, to the following: The term, "to determine SOLs" as used in the first sentence of Requirement R11 means the "determination of system operating limits," and does not include "identification of potential SOL violations."</p>
<p><b>Response:</b> The interpretation clarifies that Requirement R11 requires identification of potential SOLs – just not all potential SOLs. In the case that results of previous studies are invalidated, then the TOP must attempt to identify as many SOLs as possible via its systems and tools. This interpretation clarifies that the TOP is not excused from attempting to re-evaluate its system just because conditions have changed.</p> <p>The request and the interpretation offered here attempts to put more clarity to the meaning of the term “studies” as used in TOP-002. In Requirement R11, the two phrases “studies to determine SOLs” and “update these studies as necessary to reflect current system conditions” could lead to alternative responses.</p> <p>The interpretation attempts to eliminate the idea that any one type of study is required to determine SOLs. That issue is dealt with in Questions 1 &amp; 2. Question 3 deals with the issue of “what if” the previous studies are rendered useless because of changes in system conditions? Requirement R11 unequivocally states that “The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions....” The interpretation is that the TOP must attempt to identify the weak links in the updated system. The idea that the TOP need not attempt to identify new weak links (i.e., new potential SOLs) would put the system at what many would believe is inappropriate risk.</p> <p>Note, the interpretation does not require a complete evaluation. Considering that major system changes can occur at any instant, the interpretation is that Requirement R11 does not require a complete analysis but does require “a” study. The responses to Questions 1 &amp; 2 were meant to clearly state that the type of study is up to the TOP. The interpretation in no way obligates the TOP to identify every possible SOL, but it does not require the TOP to do as complete a study as was done in the Operations Planning environment. The intent of interpretation is to convey that the TOP must exercise due diligence to address changes in the system.</p>				
Michelle Rheault	Manitoba Hydro	1	Affirmative	<p>Each Transmission Owner shall maintain records of operating studies used for each operating day and shall provide evidence that a review was performed to confirm that a previous study is still valid for the operating day.</p>
<p><b>Response:</b> The team agrees. Study is not a defined term and has a wide-ranging meaning to the industry based on the context of its use. Sometimes a study refers to a long-term transmission planning study that involves months of effort, and sometimes a study means simply reviewing the validity of an existing set of results. It does not necessarily mean that new inputs need to be gathered, models updated, and power flows cranked, particularly if the inputs and model have not changed since the last set of results. The TOP has the discretion to determine which type of study is necessary, and this interpretation does not</p>				

**Consideration of Comments on Initial Ballot — TOP-002-2 — Orlando Utilities Commission Request for Interpretation (Project 2008-13)**

Voter	Entity	Segment	Vote	Comment
<a href="#">modify, redact, or add to the requirement.</a>				
Michael J Ranalli	National Grid	1	Negative	National Grid agrees with the interpretation regarding Questions #1 & #2. In regards to Question #3, R11 specifically refers to "studies to determine SOLs". Therefore, it clearly applies only to determining SOLs. The interpretation goes well beyond the words of R11. If the Standard needs to be revised to include evaluating SOLs for possible violations, then it should be revised. National Grid does not oppose the concept that SOLs need to be analyzed for possible violations and in fact indorses the concept. However interpretations should not be used to revise the standard
Michael Schiavone	Niagara Mohawk (National Grid Company)	3		
<p><b>Response:</b> There is no dispute with National Grid’s statement that “Interpretations should not be used to revise standards.” The team does not intend for this interpretation to impose any new requirements.</p> <p>The request and the interpretation offered here attempts to put more clarity to the meaning of the term “studies” as used in TOP-002. In Requirement R11, the two phrases “studies to determine SOLs” and “update these studies as necessary to reflect current system conditions” could lead to alternative responses.</p> <p>The interpretation attempts to eliminate the idea that any one type of study is required to determine SOLs. That issue is dealt with in Questions 1 &amp; 2. Question 3 deals with the issue of “what if” the previous studies are rendered useless because of changes in system conditions? Requirement R11 unequivocally states that “The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions....” The interpretation is that the TOP must attempt to identify the weak links in the new, changed system. The idea that the TOP need not attempt to identify new weak links (i.e., new potential SOLs) would put the system at what many would believe is inappropriate risk.</p> <p>Note, the interpretation does not require a complete evaluation. Considering that major system changes can occur at any instant, the interpretation is that Requirement R11 does not require a complete analysis but does require “a” study. The responses to Questions 1 &amp; 2 were meant to clearly state that the type of study is up to the TOP. The interpretation in no way obligates the TOP to identify every possible SOL, but it does not require the TOP to do as complete a study as was done in the Operations Planning environment. The intent of interpretation is to convey that the TOP must exercise due diligence to address changes in the system.</p>				

**Consideration of Comments on Initial Ballot — TOP-002-2 — Orlando Utilities Commission Request for Interpretation (Project 2008-13)**

Voter	Entity	Segment	Vote	Comment
David H. Boguslawski	Northeast Utilities	1	Negative	<p>Northeast Utilities votes NO and offers the below as an alternate version of the response to Question #3 that provides a more concise answer. Edited Response:                      ***** TOP-002-2 covers real-time and near-real-time studies.                      Requirement R11 is meant to include both determining new limits and verifying pre-defined SOLs. If system conditions indicate to the Transmission Operator that prior studies and SOLs may be outdated, TOP-002-2 mandates the Transmission Operator to conduct a study to identify SOLs for the new conditions. If the Transmission Operator determines that system conditions do not warrant a new study, the primary purpose of the review is to check that the previously defined (i.e., defined from the current SOLs in use, or the set defined by the planners) SOLs are valid. In the event a potential SOL violation is identified, the TOP must then "plan to meet all [SOLs]" in accordance with Requirement R10 of TOP-002-2. As written, the standard provides the Transmission Operator discretion regarding when to look for new SOLs and when to rely on its current set of SOLs. ***** The idea of "identifying exceedances" would seem to be an additional aspect of the requirement being added through this interpretation.</p>
<p><b>Response:</b> The issue NEU seems to raise concerns about is whether or not a study is meant to develop a MW (or other quantity) value for use as an SOL(s), or whether a study is meant to identify when those MW or other values are exceeded.</p> <p>Given the set of circumstances, the interpretation would mandate either or both. If the changes are so significant that the MW or other values are no longer meaningful, the TOP would be expected to diligently define or redefine MW or other values for use as SOLs. On the other hand, if the changes are such that the old quantities are still appropriate but there is a need to identify if the flows will effect the same problems (e.g., case 1 shows limit x will have a risk of being exceeded, so the TOP requires generation in area A; the new system environment happens to show parallel flows off-set the flow on limit x but now shows that limit y will be at risk of being exceeded and generation is now needed in Area B), then the TOP must attempt to identify the weak link(s) (i.e., in this example limit y). However, it does not put the TOP in a non-compliance state if its new study happened to miss identifying some other limit (z), or even the limit y.</p> <p>Studies are run to identify areas of concern (i.e., limits that are or may be exceeded). This interpretation neither adds any new requirements nor modifies current requirements.</p>				
Kathleen Goodman	ISO New England, Inc.	2	Affirmative	<p>The Interpretation states "Requirement R.11 is meant to include both determining new limits and identifying potential exceedances of pre-defined SOLs." This could be viewed by some to change the intent of the Requirement and it is believed the SDT meant to say "Requirement R.11 is meant to include both determining new limits and verification of other predefined/predetermined SOLs."</p>
<p><b>Response:</b> The language of the requirement is meant to determine new SOLs and verify existing SOLs. The interpretation notes that the language is also meant to include identifying potential exceedances of pre-defined SOLs.</p>				

**Consideration of Comments on Initial Ballot — TOP-002-2 — Orlando Utilities Commission Request for Interpretation (Project 2008-13)**

Voter	Entity	Segment	Vote	Comment
Ronald Dacombe	Manitoba Hydro	3	Affirmative	Each Transmission Owner shall maintain records of operating studies used for each operating day and shall provide evidence that a review was performed to confirm that a previous study is still valid for the operating day.
<b>Response:</b> The team agrees and thanks you for your support.				
Michael Lupo	New York Power Authority	3	Affirmative	Some members of the RSC are advocating submission of a comment irrespective that the interpretation process will not incorporate it. The comment is as follows: In the response to Question #3 that appears in the Interpretation, it states the following-"Requirement R-11 is meant to include both determining new limits and identifying potential exceedances of pre-defined SOLs". This could be viewed by some to change the intent of the Requirement and it is believed the SDT meant to say "Requirement R-11 is meant to include both determining new limits and verification of other predefined/predetermined SOLs".
<b>Response:</b> The language of the requirement is meant to determine new SOLs and verify existing SOLs. The interpretation notes that the language is also meant to include identifying potential exceedances of pre-defined SOLs.				
Mark Aikens	Manitoba Hydro	5	Affirmative	Each Transmission Owner shall maintain records of operating studies used for each operating day and shall provide evidence that a review was performed to confirm that a previous study is still valid for the operating day.
<b>Response:</b> The team agrees and thanks you for your support.				
Ralph Rufrano	New York Power Authority	1	Affirmative	In the response to Question #3 that appears in the Interpretation, it states the following-"Requirement R-11 is meant to include both determining new limits and identifying potential exceedances of pre-defined SOLs". This could be viewed by some to change the intent of the Requirement and it is believed the SDT meant to say "Requirement R-11 is meant to include both determining new limits and verification of other predefined/predetermined SOLs".
Gerald Mannarino		5		
<b>Response:</b> The language of the requirement is meant to determine new SOLs and verify existing SOLs. The interpretation notes that the language is also meant to include identifying potential exceedances of pre-defined limits.				
Daniel Prowse	Manitoba Hydro	6	Affirmative	Each Transmission Owner shall maintain records of operating studies used for each operating day and shall provide evidence that a review was performed to confirm that a previous study is still valid for the operating day.
<b>Response:</b> The team agrees and thanks you for your support.				
Jerome Murray	Oregon Public Utility Commission	9	Affirmative	Generally the transmission operator has considerable discretion to insure system operating limits meet current and anticipated conditions.
<b>Response:</b> The team agrees and thanks you for your support.				

**Consideration of Comments on Initial Ballot — TOP-002-2 — Orlando Utilities Commission Request for Interpretation (Project 2008-13)**

Voter	Entity	Segment	Vote	Comment
Guy Zito	Northeast Power Coordinating Council, Inc.	10	Affirmative	Although NPCC realizes that no changes are allowed per the existing process we would like to include the following comment and request it be included in the NERC Standards issues database for consideration during the next revision of this standard... "In the response to Question #3 that appears in the Interpretation, it states the following-"Requirement R-11 is meant to include both determining new limits and identifying potential exceedances of pre-defined SOLs". This could be viewed by some to change the intent of the Requirement and it is believed the SDT meant to say "Requirement R-11 is meant to include both determining new limits and verification of other predefined/predetermined SOLs"." Thank you
<p><b>Response:</b> The language of the requirement is meant to determine new SOLs and verify existing SOLs. The interpretation notes that the language is also meant to include identifying potential exceedances of pre-defined limits.</p>				



## Standards Announcement Two Recirculation Ballots December 10–19, 2008

Now available at: <https://standards.nerc.net/CurrentBallots.aspx>

**Recirculation ballot windows for the following projects are now open until 8 p.m. EST on December 19, 2008:**

### **Interpretation of TOP-002-2 Requirement R11 (Project 2008-13)**

Orlando Utilities Commission asked for clarification regarding the studies of system operating limits (SOLs) required in Requirement R11. A subset of the Real-time Operations Standard Drafting Team drafted a response to address the questions. A summary of the questions is listed below:

1. Can studies be reused?
2. What constitutes a study?
3. Does the phrase “to determine SOLs” include the identification of potential SOL violations?

The request and interpretation can be found on the following page:

[http://www.nerc.com/filez/standards/Project2008-13\\_TOP-002\\_Interpretation\\_OUC.html](http://www.nerc.com/filez/standards/Project2008-13_TOP-002_Interpretation_OUC.html)

### **Standard FAC-008-2 — Facility Ratings (Project 2006-09)**

The Facility Ratings standard is undergoing modifications to address the directives in FERC Order 693. The purpose of the standard is to ensure that Facility Ratings used in the reliable planning and operation of the bulk electric system are determined based on technically sound principles.

An associated implementation plan has been developed for the new standard. The ballot for this standard includes the retirement of the associated approved standards FAC-008-1 — Facility Ratings Methodology and FAC-009-1 — Establish and Communicate Facility Ratings. The drafting team made some minor clarifying edits to the standard that did not change the scope or intent of any of the requirements or VSLs.

Project Page:

[http://www.nerc.com/filez/standards/Facility\\_Ratings\\_Project\\_2006-09.html](http://www.nerc.com/filez/standards/Facility_Ratings_Project_2006-09.html)

### **Recirculation Ballot Process**

The Standards Committee encourages all members of the Ballot Pool to review the consideration of comments submitted with the initial ballots. In the recirculation ballot, votes are counted by exception only — if a Ballot Pool member does not submit a revision to that member’s original vote, the vote remains the same as in the first ballot. Members of the ballot pool may:

- Reconsider and change their vote from the first ballot.
- Vote in the second ballot even if they did not vote on the first ballot.
- Take no action if they do not want to change their original vote.

### **Standards Development Process**

The [Reliability Standards Development Procedure](#) contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate.

*For more information or assistance,  
please contact Shaun Streeter at [shaun.streeter@nerc.net](mailto:shaun.streeter@nerc.net) or at 609.452.8060.*



## Request for an Interpretation of a Reliability Standard

Date submitted: 08/27/08

### Contact information for person requesting the interpretation:

Name: Richard Kinas

Organization: Orlando Utilities Commission

Telephone: 407-384-4063

E-mail: rkinas@ouc.com

### Identify the standard that needs clarification:

Standard Number: TOP-002-2 Normal Operations Planning

### Identify specifically what needs clarification:

*Requirement Number and Text of Requirement:*

Requirement R11: The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.

1. Is the Transmission Operator required to conduct a "unique" study for each operating day, even when the actual or expected system conditions are identical to other days already studied? In other words, can a study be used for more than one day?
2. Are there specific actions required to implement a "study"? In other words, what constitutes a study?
3. Does the term, "to determine SOLs" as used in the first sentence of Requirement R11 mean the "determination of system operating limits" or does it mean the "identification of potential SOL violations?"

### Identify the material impact associated with this interpretation:

*Identify the material impact to your organization or others caused by the lack of clarity or an incorrect interpretation of this standard.*

The uncertainty in the definitions of these terms and inconsistency in their application can

result in either to little or unnecessary study work being performed. Unnecessary, redundant work with no benefit to reliability performed for the purpose of meeting an overly literal interpretation of the requirement will result in higher operating costs to the end users of the transmission system and the loss of opportunities to use those resources for more important reliability-related tasks. Clarification of these two terms (Study & SOL) will aide in focusing the proper resources on the proper work, maximizing both the reliability of the system and the investment of the end user.

<b>Project 2008-13: Response to Request for an Interpretation of TOP-002-2, Requirement R11 for Orlando Utilities Commission</b>
<p>The following interpretation of TOP-002-2 – Normal Operations Planning, Requirement R11 was developed by a subset of the Real-time Operations Standards Drafting Team on September 15, 2008.</p>
<b>Requirement Number and Text of Requirement</b>
<p>Requirement R11: The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.</p>
<b>Question #1</b>
<p>Is the Transmission Operator required to conduct a “unique” study for each operating day, even when the actual or expected system conditions are identical to other days already studied? In other words, can a study be used for more than one day?</p>
<b>Response to Question #1</b>
<p>Requirement R11 mandates that each Transmission Operator review (i.e., study) the state of its Transmission Operator area both in advance of each day and during each day. Each day must have “a” study that can be applied to it, but it is not necessary to generate a “unique” study for each day. Therefore, it is acceptable for a Transmission Operator to use a particular study for more than one day.</p>
<b>Question #2</b>
<p>Are there specific actions required to implement a “study”? In other words, what constitutes a study?</p>
<b>Response to Question #2</b>
<p>The requirement does not mandate a particular type of review or study. The review or study may be based on complex computer studies or a manual reasonability review of previously existing study results. The requirement is designed to ensure the Transmission Operator maintains sensitivity to what is happening or what is about to happen.</p>
<b>Question #3</b>
<p>Does the term, “to determine SOLs” as used in the first sentence of Requirement R11 mean the “determination of system operating limits” or does it mean the “identification of potential SOL violations?”</p>
<b>Response to Question #3</b>
<p>TOP-002-2 covers real-time and near-real-time studies. Requirement R11 is meant to include</p>

both determining new limits and identifying potential “exceedances” of pre-defined SOLs. If system conditions indicate to the Transmission Operator that prior studies and SOLs may be outdated, TOP-002-2 mandates the Transmission Operator to conduct a study to identify SOLs for the new conditions. If the Transmission Operator determines that system conditions do not warrant a new study, the primary purpose of the review is to check that the previously defined (i.e., defined from the current SOLs in use, or the set defined by the planners) SOLs are not expected to be exceeded. As written, the standard provides the Transmission Operator discretion regarding when to look for new SOLs and when to rely on its current set of SOLs.

## Request for an Interpretation of a Reliability Standard

Date submitted: 08/27/08

### Contact information for person requesting the interpretation:

Name: Richard Kinas

Organization: Orlando Utilities Commission

Telephone: 407-384-4063

E-mail: rkinas@ouc.com

### Identify the standard that needs clarification:

Standard Number: TOP-002-2 Normal Operations Planning

### Identify specifically what needs clarification:

*Requirement Number and Text of Requirement:*

Requirement R11: The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.

1. Is the Transmission Operator required to conduct a "unique" study for each operating day, even when the actual or expected system conditions are identical to other days already studied? In other words, can a study be used for more than one day?
2. Are there specific actions required to implement a "study"? In other words, what constitutes a study?
3. Does the term, "to determine SOLs" as used in the first sentence of Requirement R11 mean the "determination of system operating limits" or does it mean the "identification of potential SOL violations?"

### Identify the material impact associated with this interpretation:

*Identify the material impact to your organization or others caused by the lack of clarity or an incorrect interpretation of this standard.*

The uncertainty in the definitions of these terms and inconsistency in their application can

result in either too little or unnecessary study work being performed. Unnecessary, redundant work with no benefit to reliability performed for the purpose of meeting an overly literal interpretation of the requirement will result in higher operating costs to the end users of the transmission system and the loss of opportunities to use those resources for more important reliability-related tasks. Clarification of these two terms (Study & SOL) will aid in focusing the proper resources on the proper work, maximizing both the reliability of the system and the investment of the end user.

## Standards Announcement

### Final Ballot Results

Now available at: <https://standards.nerc.net/Ballots.aspx>

#### **Interpretation of TOP-002-2 — Normal Operations Planning, Requirement R11 (Project 2008-13)**

The ballot has passed and will be submitted to the NERC Board of Trustees for approval.

The recirculation ballot for the interpretation of TOP-002-2 — Normal Operations Planning Requirement R11 (requested by Orlando Utilities Commission) ended December 19, 2008. The final ballot results are shown below. The [Ballot Results](#) Web page provides a link to the detailed results.

Quorum:	87.62 %
Approval:	97.47 %

Project page: [http://www.nerc.com/filez/standards/Project2008-13\\_TOP-002\\_Interpretation\\_OUC.html](http://www.nerc.com/filez/standards/Project2008-13_TOP-002_Interpretation_OUC.html)

#### **Standard FAC-008-2 — Facility Ratings (Project 2006-09)**

The ballot has failed.

The recirculation ballot for Standard FAC-008-2 — Facility Ratings (Project 2006-09) ended December 19, 2008. The final ballot results are shown below. The [Ballot Results](#) Web page provides a link to the detailed results.

Quorum:	93.04 %
Approval:	57.37 %

Project page: [http://www.nerc.com/filez/standards/Facility\\_Ratings\\_Project\\_2006-09.html](http://www.nerc.com/filez/standards/Facility_Ratings_Project_2006-09.html)

#### **Standard PER-005-1— System Personnel Training (Project 2006-01)**

The ballot has passed and will be submitted to the NERC Board of Trustees for approval.

The recirculation ballot for Standard PER-005-1— System Personnel Training (Project 2006-01) ended December 22, 2008. The final ballot results are shown below. The [Ballot Results](#) Web page provides a link to the detailed results.

Quorum:	91.48 %
Approval:	80.63 %



Project page: <http://www.nerc.com/filez/standards/System-Personnel-Training.html>

## **Ballot Criteria**

Approval requires both:

- A quorum, which is established by at least 75% of the members of the ballot pool for submitting either an affirmative vote, a negative vote, or an abstention; and
- A two-thirds majority of the weighted segment votes cast must be affirmative. The number of votes cast is the sum of affirmative and negative votes, excluding abstentions and nonresponses.

## **Standards Development Process**

The [Reliability Standards Development Procedure](#) contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate.

*For more information or assistance,  
please contact Shaun Streeter at [shaun.streeter@nerc.net](mailto:shaun.streeter@nerc.net) or at 609.452.8060.*

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## Ballot Results

<b>Ballot Name:</b>	Request for Interpretation - TOP-002-2 - Orlando Utilities Commission_rc
<b>Ballot Period:</b>	12/10/2008 - 12/19/2008
<b>Ballot Type:</b>	recirculation
<b>Total # Votes:</b>	184
<b>Total Ballot Pool:</b>	210
<b>Quorum:</b>	<b>87.62 % The Quorum has been reached</b>
<b>Weighted Segment Vote:</b>	97.47 %
<b>Ballot Results:</b>	<b>The Standard has Passed</b>

## Summary of Ballot Results

Segment	Ballot Pool	Segment Weight	Affirmative		Negative		Abstain # Votes	No Vote
			# Votes	Fraction	# Votes	Fraction		
1 - Segment 1.	63	1	49	0.925	4	0.075	3	7
2 - Segment 2.	8	0.8	8	0.8	0	0	0	0
3 - Segment 3.	51	1	41	0.976	1	0.024	2	7
4 - Segment 4.	12	1	10	1	0	0	0	2
5 - Segment 5.	37	1	29	0.967	1	0.033	2	5
6 - Segment 6.	24	1	18	0.947	1	0.053	0	5
7 - Segment 7.	0	0	0	0	0	0	0	0
8 - Segment 8.	2	0.2	2	0.2	0	0	0	0
9 - Segment 9.	6	0.6	6	0.6	0	0	0	0
10 - Segment 10.	7	0.7	7	0.7	0	0	0	0
<b>Totals</b>	<b>210</b>	<b>7.3</b>	<b>170</b>	<b>7.115</b>	<b>7</b>	<b>0.185</b>	<b>7</b>	<b>26</b>

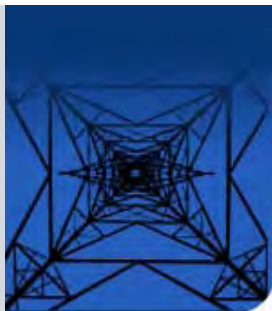
## Individual Ballot Pool Results

Segment	Organization	Member	Ballot	Comments
1	Ameren Services	Kirit S. Shah	Affirmative	
1	American Electric Power	Paul B. Johnson	Affirmative	
1	American Transmission Company, LLC	Jason Shaver	Abstain	<a href="#">View</a>
1	Arizona Public Service Co.	Cary B. Deise	Affirmative	
1	Associated Electric Cooperative, Inc.	John Bussman	Affirmative	
1	Avista Corp.	Scott Kinney		
1	Bonneville Power Administration	Donald S. Watkins	Negative	<a href="#">View</a>

1	Brazos Electric Power Cooperative, Inc.	Tony Kroskey	Affirmative	
1	CenterPoint Energy	Paul Rocha	Affirmative	
1	Central Maine Power Company	Brian Conroy	Affirmative	
1	City of Tacoma, Department of Public Utilities, Light Division, dba Tacoma Power	Alan L Cooke	Affirmative	
1	City Utilities of Springfield, Missouri	Jeff Knottek	Affirmative	
1	Consolidated Edison Co. of New York	Christopher L de Graffenried	Affirmative	
1	Dairyland Power Coop.	Robert W. Roddy	Affirmative	
1	Dominion Virginia Power	William L. Thompson	Affirmative	
1	Duke Energy Carolina	Douglas E. Hils	Affirmative	
1	E.ON U.S. LLC	Larry Monday	Affirmative	
1	El Paso Electric Company	Dennis Malone		
1	Entergy Corporation	George R. Bartlett	Affirmative	
1	Exelon Energy	John J. Blazekovich	Affirmative	
1	Farmington Electric Utility System	Alan Glazner	Affirmative	
1	FirstEnergy Energy Delivery	Robert Martinko	Affirmative	
1	Florida Keys Electric Cooperative Assoc.	Dennis Minton	Negative	
1	Florida Power & Light Co.	C. Martin Mennes	Affirmative	
1	Great River Energy	Gordon Pietsch		
1	Hoosier Energy Rural Electric Cooperative, Inc.	Damon Holladay	Affirmative	
1	Hydro One Networks, Inc.	Ajay Garg	Affirmative	
1	Hydro-Quebec TransEnergie	Julien Gagnon	Affirmative	
1	Idaho Power Company	Ronald D. Schellberg		
1	Kansas City Power & Light Co.	Jim Useldinger	Negative	
1	Lakeland Electric	Larry E Watt	Affirmative	
1	Lincoln Electric System	Doug Bantam	Affirmative	
1	Lower Colorado River Authority	Martyn Turner	Affirmative	
1	Manitoba Hydro	Michelle Rheault	Affirmative	<a href="#">View</a>
1	Minnesota Power, Inc.	Carol Gerou	Affirmative	
1	National Grid	Michael J Ranalli	Affirmative	
1	New York Power Authority	Ralph Ruffano	Affirmative	<a href="#">View</a>
1	New York State Electric & Gas Corp.	Henry G. Masti	Affirmative	
1	Northeast Utilities	David H. Boguslawski	Negative	<a href="#">View</a>
1	Northern Indiana Public Service Co.	Joseph Dobes	Affirmative	
1	Oklahoma Gas and Electric Co.	Marvin E VanBebber	Abstain	
1	Orlando Utilities Commission	Brad Chase	Affirmative	
1	Otter Tail Power Company	Lawrence R. Larson	Affirmative	
1	Pacific Gas and Electric Company	Chifong L. Thomas	Affirmative	
1	PacifiCorp	Robert Williams	Affirmative	
1	Platte River Power Authority	John C. Collins	Affirmative	
1	Potomac Electric Power Co.	Richard J. Kafka	Affirmative	
1	PP&L, Inc.	Ray Mammarella		
1	Progress Energy Carolinas	Sammy Roberts	Affirmative	
1	Public Service Electric and Gas Co.	Kenneth D. Brown	Affirmative	
1	Puget Sound Energy, Inc.	Catherine Koch	Affirmative	
1	Sacramento Municipal Utility District	Dilip Mahendra	Affirmative	
1	Salt River Project	Robert Kondziolka	Affirmative	
1	Santee Cooper	Terry L. Blackwell	Affirmative	
1	SaskPower	Wayne Guttormson		
1	Seattle City Light	Pawel Krupa	Affirmative	
1	Sierra Pacific Power Co.	Richard Salgo	Affirmative	
1	Southern California Edison Co.	Dana Cabbell	Abstain	
1	Southern Company Services, Inc.	Horace Stephen Williamson	Affirmative	
1	Southwest Transmission Cooperative, Inc.	James L. Jones	Affirmative	
1	Tampa Electric Co.	Thomas J. Szelistowski		
1	Western Area Power Administration	Robert Temple	Affirmative	
1	Xcel Energy, Inc.	Gregory L. Pieper	Affirmative	
2	Alberta Electric System Operator	Anita Lee	Affirmative	
2	California ISO	David Hawkins	Affirmative	
2	Electric Reliability Council of Texas, Inc.	Roy D. McCoy	Affirmative	
2	ISO New England, Inc.	Kathleen Goodman	Affirmative	<a href="#">View</a>
2	Midwest ISO, Inc.	Terry Bilke	Affirmative	
2	New Brunswick System Operator	Alden Briggs	Affirmative	
2	New York Independent System Operator	Gregory Campoli	Affirmative	
2	PJM Interconnection, L.L.C.	Tom Bowe	Affirmative	
3	Alabama Power Company	Robin Hurst	Affirmative	

3	Ameren Services	Mark Peters		
3	American Electric Power	Raj Rana		
3	Arizona Public Service Co.	Thomas R. Glock	Affirmative	
3	Atlantic City Electric Company	James V. Petrella	Affirmative	
3	Avista Corp.	Robert Lafferty	Abstain	
3	BC Hydro and Power Authority	Pat G. Harrington	Abstain	
3	Bonneville Power Administration	Rebecca Berdahl	Negative	<a href="#">View</a>
3	City of Tallahassee	Rusty S. Foster	Affirmative	
3	City Public Service of San Antonio	Edwin Les Barrow	Affirmative	
3	Commonwealth Edison Co.	Stephen Lesniak	Affirmative	
3	Consolidated Edison Co. of New York	Peter T Yost	Affirmative	
3	Consumers Energy	David A. Lapinski	Affirmative	
3	Delmarva Power & Light Co.	Michael R. Mayer	Affirmative	
3	Dominion Resources, Inc.	Jalal (John) Babik	Affirmative	
3	Duke Energy Carolina	Henry Ernst-Jr	Affirmative	
3	Entergy Services, Inc.	Matt Wolf	Affirmative	
3	FirstEnergy Solutions	Joanne Kathleen Borrell	Affirmative	
3	Florida Power & Light Co.	W. R. Schoneck	Affirmative	
3	Florida Power Corporation	Lee Schuster	Affirmative	
3	Georgia Power Company	Leslie Sibert	Affirmative	
3	Grays Harbor PUD	Wesley W Gray	Affirmative	
3	Great River Energy	Sam Kokkinen		
3	Gulf Power Company	Gwen S Frazier	Affirmative	
3	Hydro One Networks, Inc.	Michael D. Penstone	Affirmative	
3	Kissimmee Utility Authority	Gregory David Woessner	Affirmative	
3	Lakeland Electric	Mace Hunter	Affirmative	
3	Lincoln Electric System	Bruce Merrill	Affirmative	
3	Louisville Gas and Electric Co.	Charles A. Freibert	Affirmative	
3	Manitoba Hydro	Ronald Dacombe	Affirmative	<a href="#">View</a>
3	MidAmerican Energy Co.	Thomas C. Mielnik		
3	Mississippi Power	Don Horsley	Affirmative	
3	Municipal Electric Authority of Georgia	Steven M. Jackson		
3	New York Power Authority	Michael Lupo	Affirmative	<a href="#">View</a>
3	Niagara Mohawk (National Grid Company)	Michael Schiavone	Affirmative	<a href="#">View</a>
3	Northern Indiana Public Service Co.	William SeDoris	Affirmative	
3	Orlando Utilities Commission	Ballard Keith Mutters	Affirmative	
3	PECO Energy an Exelon Co.	John J. McCawley	Affirmative	
3	Platte River Power Authority	Terry L Baker	Affirmative	
3	Potomac Electric Power Co.	Robert Reuter	Affirmative	
3	Progress Energy Carolinas	Sam Waters	Affirmative	
3	Public Service Electric and Gas Co.	Jeffrey Mueller	Affirmative	
3	Public Utility District No. 2 of Grant County	Greg Lange	Affirmative	
3	Salt River Project	John T. Underhill	Affirmative	
3	San Diego Gas & Electric	Scott Peterson		
3	Santee Cooper	Zack Dusenbury	Affirmative	
3	Seattle City Light	Dana Wheelock	Affirmative	
3	Tampa Electric Co.	Ronald L. Donahey		
3	Wisconsin Electric Power Marketing	James R. Keller	Affirmative	
3	Wisconsin Public Service Corp.	James Maenner	Affirmative	
3	Xcel Energy, Inc.	Michael Ibold	Affirmative	
4	Alliant Energy Corp. Services, Inc.	Kenneth Goldsmith	Affirmative	
4	Consumers Energy	David Frank Ronk	Affirmative	
4	Florida Municipal Power Agency	Thomas Reedy	Affirmative	
4	Madison Gas and Electric Co.	Joseph G. DePoorter	Affirmative	
4	Northern California Power Agency	Fred E. Young	Affirmative	
4	Ohio Edison Company	Douglas Hohlbaugh	Affirmative	
4	Old Dominion Electric Coop.	Mark Ringhausen	Affirmative	
4	Public Utility District No. 1 of Douglas County	Henry E. LuBean		
4	Seattle City Light	Hao Li	Affirmative	
4	Seminole Electric Cooperative, Inc.	Steven R. Wallace	Affirmative	
4	Wisconsin Energy Corp.	Anthony Jankowski	Affirmative	
4	Wisconsin Public Inc.	Pat Connors		
5	AEP Service Corp.	Brock Ondayko	Affirmative	
5	Amerenue	Sam Dwyer	Affirmative	
5	Avista Corp.	Edward F. Groce	Abstain	
5	Bonneville Power Administration	Francis J. Halpin	Negative	<a href="#">View</a>
5	City of Tallahassee	Alan Gale	Affirmative	

5	City Water, Light & Power of Springfield	Karl E. Kohlrus	Affirmative	
5	Colmac Clarion/Piney Creek LP	Harvie D. Beavers	Affirmative	
5	Conectiv Energy Supply, Inc.	Richard K. Douglass	Affirmative	
5	Consumers Energy	James B Lewis	Affirmative	
5	Dairyland Power Coop.	Warren Schaefer	Affirmative	
5	Detroit Edison Company	Ronald W. Bauer	Affirmative	
5	Dominion Resources, Inc.	Mike Garton	Affirmative	
5	Entergy Corporation	Stanley M Jaskot	Affirmative	
5	Florida Power & Light Co.	Robert A. Birch		
5	Gainesville Regional Utilities	Mark Bennett	Affirmative	
5	Great River Energy	Cynthia E Sulzer		
5	JEA	Donald Gilbert	Affirmative	
5	Lincoln Electric System	Dennis Florom	Affirmative	
5	Louisville Gas and Electric Co.	Charlie Martin	Affirmative	
5	Manitoba Hydro	Mark Aikens	Affirmative	<a href="#">View</a>
5	New York Power Authority	Gerald Mannarino	Affirmative	<a href="#">View</a>
5	Northern States Power Co.	Liam Noailles	Affirmative	
5	Orlando Utilities Commission	Richard Kinas	Affirmative	
5	PPL Generation LLC	Mark A. Heimbach	Affirmative	
5	Progress Energy Carolinas	Wayne Lewis	Affirmative	
5	PSEG Power LLC	Thomas Piascik	Affirmative	
5	Reliant Energy Services	Thomas J. Bradish	Affirmative	
5	Salt River Project	Glen Reeves	Affirmative	
5	Seattle City Light	Michael J. Haynes	Affirmative	
5	Seminole Electric Cooperative, Inc.	Brenda K. Atkins		
5	South Mississippi Electric Power Association	Jerry W Johnson		
5	Southern California Edison Co.	David Schiada	Affirmative	
5	Southern Company Services, Inc.	Roger D. Green		
5	Tampa Electric Co.	Frank L Busot	Affirmative	
5	U.S. Army Corps of Engineers Northwestern Division	Karl Bryan	Affirmative	
5	U.S. Bureau of Reclamation	Martin Bauer	Abstain	
5	Wisconsin Electric Power Co.	Linda Horn	Affirmative	
6	AEP Marketing	Edward P. Cox	Affirmative	
6	Ameren Energy Marketing Co.	Jennifer Richardson	Affirmative	
6	Bonneville Power Administration	Brenda S. Anderson	Negative	<a href="#">View</a>
6	Consolidated Edison Co. of New York	Nickesha P Carrol	Affirmative	
6	Dominion Resources, Inc.	Louis S Slade	Affirmative	
6	Entergy Services, Inc.	William Franklin	Affirmative	
6	Eugene Water & Electric Board	Daniel Mark Bedbury	Affirmative	
6	FirstEnergy Solutions	Mark S Travaglianti	Affirmative	
6	Florida Municipal Power Agency	Robert C. Williams		
6	Lincoln Electric System	Eric Ruskamp	Affirmative	
6	Louisville Gas and Electric Co.	Daryn Barker	Affirmative	
6	Manitoba Hydro	Daniel Prowse	Affirmative	<a href="#">View</a>
6	New York Power Authority	Thomas Papadopoulos	Affirmative	
6	PP&L, Inc.	Thomas Hyzinski		
6	Progress Energy	James Eckelkamp	Affirmative	
6	PSEG Energy Resources & Trade LLC	James D. Hebson	Affirmative	
6	Public Utility District No. 1 of Chelan County	Hugh A. Owen		
6	Salt River Project	Mike Hummel	Affirmative	
6	Santee Cooper	Suzanne Ritter	Affirmative	
6	Seminole Electric Cooperative, Inc.	Trudy S. Novak	Affirmative	
6	Southern California Edison Co.	Marcus V Lotto	Affirmative	
6	Tampa Electric Co.	Jose Benjamin Quintas		
6	Western Area Power Administration - UGP Marketing	John Stonebarger	Affirmative	
6	Xcel Energy, Inc.	David F. Lemmons		
8	JDRJC Associates	Jim D. Cyrulewski	Affirmative	
8	Volkman Consulting, Inc.	Terry Volkman	Affirmative	
9	California Energy Commission	William Mitchell Chamberlain	Affirmative	
9	Commonwealth of Massachusetts Department of Public Utilities	Donald E. Nelson	Affirmative	
9	National Association of Regulatory Utility Commissioners	Diane J. Barney	Affirmative	
9	Oregon Public Utility Commission	Jerome Murray	Affirmative	<a href="#">View</a>
9	Public Utilities Commission of Ohio	Klaus Lambeck	Affirmative	
9	Utah Public Service Commission	Ric Campbell	Affirmative	



10	Electric Reliability Council of Texas, Inc.	Kent Saathoff	Affirmative	
10	Midwest Reliability Organization	Larry Brusseau	Affirmative	
10	New York State Reliability Council	Alan Adamson	Affirmative	
10	Northeast Power Coordinating Council, Inc.	Guy Zito	Affirmative	<a href="#">View</a>
10	SERC Reliability Corporation	Carter B. Edge	Affirmative	
10	Southwest Power Pool	Charles H. Yeung	Affirmative	
10	Western Electricity Coordinating Council	Louise McCarren	Affirmative	

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