

**Exhibit A**

**Proposed Reliability Standard**

**Proposed Reliability Standard IRO-009-2**

## A. Introduction

1. **Title:** Reliability Coordinator Actions to Operate Within IROLs
2. **Number:** IRO-009-2
3. **Purpose:** To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).
4. **Applicability:**
  - 4.1. **Functional Entities:**
    - 4.1.1. Reliability Coordinator.
5. **Effective Date:** See the Implementation Plan for IRO-009-2.

## B. Requirements and Measures

- R1. For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions the Reliability Coordinator shall take or actions the Reliability Coordinator shall direct others to take (up to and including load shedding): *[Violation Risk Factor: Medium]* *[Time Horizon: Operations Planning or Same Day Operations]*
  - 1.1. That can be implemented in time to prevent the identified IROL exceedance.
  - 1.2. To mitigate the magnitude and duration of an IROL exceedance such that the IROL exceedance is relieved within the IROL's  $T_v$ .
- M1. Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it has Operating Processes, Procedures, or Plans to address both preventing and mitigating the magnitude and duration of IROL exceedances in accordance with Requirement R1. This evidence shall include a list of any IROLs (and each associated  $T_v$ ) identified in advance, along with one or more dated Operating Processes, Procedures, or Plans that will be used.
- R2. Each Reliability Coordinator shall initiate one or more Operating Processes, Procedures, or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirement R1) that are intended to prevent an IROL exceedance, as identified in the Reliability Coordinator's Real-time monitoring or Real-time Assessment. *[Violation Risk Factor: High]* *[Time Horizon: Real-time Operations]*
- M2. Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it initiated one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) in accordance with Requirement R2. This evidence could include, but is not

limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

- R3.** Each Reliability Coordinator shall act or direct others to act so that the magnitude and duration of an IROL exceedance is mitigated within the IROL's  $T_v$ , as identified in the Reliability Coordinator's Real-time monitoring or Real-time Assessment. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M3.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.
- R4.** Each Reliability Coordinator shall operate to the most limiting IROL and  $T_v$  in instances where there is a difference in an IROL or its  $T_v$  between Reliability Coordinators that are responsible for that Facility (or group of Facilities). *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M4.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it operated to the most limiting IROL and  $T_v$  in instances where there was a difference in an IROL or its  $T_v$ . Such evidence could include, but is not limited to, dated computer printouts, dated operator logs, dated voice recordings, dated transcripts of voice recordings, or other equivalent evidence in accordance with Requirement R4.

## C. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

#### 1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

The Reliability Coordinator shall retain evidence of Requirement R1; Requirement R2; Requirement R3; and Requirement R4 for a rolling 12 months.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and any reported IROL violations submitted since the last audit.

#### 1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

#### 1.4. Additional Compliance Information

None.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.				<p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to prevent that IROL exceedance (Part 1.1).</p> <p style="text-align: center;">OR</p> <p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate that IROL exceedance within the IROL’s T<sub>v</sub>. (Part 1.2).</p>
R2.				No Operating Processes, Procedures, or Plans were

				initiated that were intended to prevent a predicted IROL exceedance as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.
<b>R3.</b>				Actual system conditions showed that there was an IROL exceedance in its Reliability Coordinator Area, and that the IROL exceedance was not mitigated within the IROL’s T <sub>v</sub> .
<b>R4.</b>				The most limiting IROL or its T <sub>v</sub> was not operated to between Reliability Coordinators that are responsible for the Facility (or group of Facilities) associated with the IROL.

**D. Regional Variances**

None.

**E. Associated Documents**

None.

### Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	FERC approved IRO-009-1	
2	August 13, 2015	Adopted by NERC Board of Trustees	Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.



### Standard Attachments

None.

### Rationale

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.

**Rationale for revisions to Requirement R1:** The standard drafting team (IRO SDT) revised this requirement by combining IRO-009-1 Requirements R1 and R2 to form one requirement with two subparts to make the requirements more concise, as both requirements contained similar language.

**Rationale for revisions to new Requirement R2 (previously Requirement R3):** The IRO SDT revised the language of this requirement to improve clarity as well as consistency with similar NERC Board of Trustees (Board) approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments.”

**Rationale for Revisions to Requirement R3 (previously Requirement R4):** The IRO SDT removed the term “without delay” from the requirement upon determining that the point of time at which the requirement is triggered is inherent in the requirement itself. The IRO SDT also revised the language of this requirement to improve clarity as well as consistency with similar Board approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments.”

**Rationale for revisions to Requirement R4 (previously Requirement R5):** The IRO SDT revised the language of this requirement for clarity as well as consistency with similar Board approved standards, such as TOP standard revisions (TOP-001-3 R18). The IRO SDT retained clarifying language to limit applicability to appropriate affected RCs.

## A. Introduction

1. **Title:** Reliability Coordinator Actions to Operate Within IROLs
2. **Number:** IRO-009-12
3. **Purpose:** To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).

4. **Applicability:**

- 4.1. **Functional Entities:**

- 4.1.1. Reliability Coordinator.

- ~~5. **Proposed Effective Date:**~~

- ~~6.5. In those jurisdictions where no regulatory approval is required, See the standard shall become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after BOT adoption. Implementation Plan for IRO-009-2. In those jurisdictions where regulatory approval is required, the standard shall become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after applicable regulatory approval.~~

## B. Requirements and Measures

- R1. For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions ~~it~~the Reliability Coordinator shall take or actions ~~it~~the Reliability Coordinator shall direct others to take (up to and including load shedding) ~~that can be implemented in time to prevent exceeding those IROLs. (~~Violation Risk Factor: Medium) ~~(~~Time Horizon: Operations Planning or Same Day Operations)~~]~~

~~For each 1.1. That can be implemented in time to prevent the identified IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) to exceedance.~~

- ~~1.2. To mitigate the magnitude and duration of exceeding that an IROL exceedance such that the IROL exceedance is relieved within the IROL's T<sub>v</sub>. (Violation Risk Factor: Medium) (Time Horizon: Operations Planning or Same Day Operations)~~

- ~~R2. When an assessment of actual or expected system conditions predicts that an IROL in its Reliability Coordinator Area will be exceeded, the Reliability Coordinator shall~~

~~implement one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) to prevent exceeding that IROL. (Violation Risk Factor: High) (Time Horizon: Real-time Operations)~~

~~**R3.** When actual system conditions show that there is an instance of exceeding an IROL in its Reliability Coordinator Area, the Reliability Coordinator shall, without delay, act or direct others to act to mitigate the magnitude and duration of the instance of exceeding that IROL within the IROL's  $T_v$ . (Violation Risk Factor: High) (Time Horizon: Real-time Operations)~~

~~**R4.** If unanimity cannot be reached on the value for an IROL or its  $T_v$ , each Reliability Coordinator that monitors that Facility (or group of Facilities) shall, without delay, use the most conservative of the values (the value with the least impact on reliability) under consideration. (Violation Risk Factor: High) (Time Horizon: Real-time Operations)~~

### **G. Measures**

**M1.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it has Operating Processes, Procedures, or Plans to address both preventing and mitigating instances the magnitude and duration of exceeding IROLs/IROL exceedances in accordance with Requirement R1 ~~and Requirement R2.~~ This evidence shall include a list of any IROLs (and each associated  $T_v$ ) identified in advance, along with one or more dated Operating Processes, Procedures, or Plans that ~~that~~ will be used.

**R2.** Each Reliability Coordinator shall initiate one or more Operating Processes, Procedures, or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirement R1) that are intended to prevent an IROL exceedance, as identified in the Reliability Coordinator's Real-time monitoring or Real-time Assessment. [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

**M2.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it ~~acted or directed others to act~~ initiated one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) in accordance with Requirement ~~R3 and Requirement R4~~ R2. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**R3.** ~~For a situation where~~ Each Reliability Coordinators disagree on ~~Coordinator shall act or direct others to act so that~~ the value magnitude and duration of an IROL or its exceedance is mitigated within the IROL's  $T_v$ , as identified in the Reliability Coordinator's Real-time monitoring or Real-time Assessment. [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

**M3.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it ~~used~~ acted or directed others to act in accordance with Requirement

R3. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**R4.** Each Reliability Coordinator shall operate to the most conservative of the values under consideration, without delay limiting IROL and  $T_v$  in instances where there is a difference in an IROL or its  $T_v$  between Reliability Coordinators that are responsible for that Facility (or group of Facilities). *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

**M3.M4.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it operated to the most limiting IROL and  $T_v$  in instances where there was a difference in an IROL or its  $T_v$ . Such evidence could include, but is not limited to, dated computer printouts, dated operator logs, dated voice recordings, dated transcripts of voice recordings, or other equivalent evidence. ~~(R5)~~ in accordance with Requirement R4.

## **D.C. Compliance**

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

#### **1.1. Compliance Enforcement Authority:**

~~For Reliability Coordinators that work for the Regional Entity, the ERO shall serve as the Compliance Enforcement Authority.~~

~~For Reliability Coordinators that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.~~

#### **~~1.2. Compliance Monitoring Period and Reset Time Frame~~**

~~Not “Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.~~

#### **1.2. Evidence Retention:**

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable:

#### **~~1.3. Compliance Monitoring and Enforcement Processes~~**

~~Compliance Audits~~

~~Self-Certifications~~

~~Spot-Checking~~

~~Compliance Violation Investigations~~

~~Self-Reporting~~

~~Complaints~~

~~Exception Reporting~~

#### **~~1.4. Data Retention~~**

~~The Reliability Coordinator, entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:~~

~~The Reliability Coordinator shall retain evidence of Requirement R1, Requirement R2, and Measure M1, for a rolling 12 months.~~

~~The Reliability Coordinator shall retain evidence of; Requirement R3; and Requirement R4, Requirement R5, Measure M2, and Measure M3 for a rolling 12 months.~~

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and all any reported IROL ~~Violation Reports~~violations submitted since the last audit.

**1.3. Compliance Monitoring and Enforcement Program**

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

**1.5.1.4. Additional Compliance Information**

~~**Exception Reporting:** For each instance of exceeding an IROL for time greater than IROL T<sub>v</sub>, the Reliability Coordinator shall submit an IROL Violation Report to its Compliance Enforcement Authority within 30 days of the initiation of the event.~~

None.

Violation Severity Levels

Requirement #	Lower Violation Severity Levels		Moderate	High	Severe
R1	<u>Lower VSL</u>	<u>Moderate VSL</u>	<u>High VSL</u>	<p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL. (R1)<u>Severe VSL</u></p>	
<u>R2R1.</u>				<p><u>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to prevent that IROL exceedance (Part 1.1).</u></p> <p style="text-align: center;"><u>OR</u></p> <p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions</p>	

				to mitigate <del>exceeding</del> that IROL <u>exceedance</u> within the IROL’s T <sub>v</sub> . (R2) <u>Part 1.2).</u>
<u>R3R2.</u>				<del>An assessment of actual or expected system conditions</del> <u>No Operating Processes, Procedures, or Plans were initiated that were intended to prevent a predicted that an IROL exceedance as identified in the Reliability Coordinator’s Area would be exceeded, but no Operating Processes, Procedures, or Plans were implemented. (R3)</u> <u>Real-time monitoring or Real-time Assessment.</u>
<u>R4R3.</u>			<del>Actual system conditions showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and there was a delay of five minutes or more before acting or directing others to act to mitigate the</del>	Actual system conditions showed that there was an <del>instance of exceeding an</del> IROL <u>exceedance</u> in its Reliability Coordinator Area, and that <del>the</del> IROL <u>exceedance</u> was not <del>resolved</del> <u>mitigated</u> within the IROL’s T <sub>v</sub> . (R4)



**Standard IRO-009-1—2 – Reliability Coordinator Actions to Operate Within IROLs**

			<p>magnitude and duration of the instance of exceeding that IROL, however the IROL was mitigated within the IROL T<sub>v</sub>: (R4)</p>	
<b>R5R4.</b>	Not applicable.	Not applicable.	Not applicable.	<p>There was a disagreement on the value of the IROL or its T<sub>v</sub> and the most conservative limit under consideration was not used. (R5)</p> <p><u>The most limiting IROL or its T<sub>v</sub> was not operated to between Reliability Coordinators that are responsible for the Facility (or group of Facilities) associated with the IROL.</u></p>

~~E.D.~~ Regional Variances

None.

~~F.E.~~ Associated Documents

~~IROL Violation Report~~

None.

**Version History**

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	<del>Order issued by FERC approving</del> <u>approved</u> IRO-009-1 ( <del>approval effective 5/23/11</del> )	
<del>12</del>	<del>February 28, 2014</del> <u>August 13, 2015</u>	<del>Updated VRFs based on June 24, 2013 approval.</del> <u>Adopted by NERC Board of Trustees</u>	<u>Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.</u>

### Standard Attachments

None.

### Rationale

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.

**Rationale for revisions to Requirement R1:** The standard drafting team (IRO SDT) revised this requirement by combining IRO-009-1 Requirements R1 and R2 to form one requirement with two subparts to make the requirements more concise, as both requirements contained similar language.

**Rationale for revisions to new Requirement R2 (previously Requirement R3):** The IRO SDT revised the language of this requirement to improve clarity as well as consistency with similar NERC Board of Trustees (Board) approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments.”

**Rationale for Revisions to Requirement R3 (previously Requirement R4):** The IRO SDT removed the term “without delay” from the requirement upon determining that the point of time at which the requirement is triggered is inherent in the requirement itself. The IRO SDT also revised the language of this requirement to improve clarity as well as consistency with similar Board approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments.”

**Rationale for revisions to Requirement R4 (previously Requirement R5):** The IRO SDT revised the language of this requirement for clarity as well as consistency with similar Board approved standards, such as TOP standard revisions (TOP-001-3 R18). The IRO SDT retained clarifying language to limit applicability to appropriate affected RCs.

**EXHIBIT B**

**Implementation Plan**

## **Implementation Plan for IRO-009**

## Implementation Plan

### Project 2015-06 Interconnection Reliability Operations and Coordination IRO-009-2

#### Standards Involved

##### Approval:

- IRO-009-2 – Reliability Coordinator Actions to Operate within IROLs

##### Retirement:

- IRO-009-1 – Reliability Coordinator Actions to Operate within IROLs

#### Prerequisite Approvals

N/A

#### Background

Project 2015-06 Interconnection Reliability Operations and Coordination (Project) was initiated to implement the Project 2012-09 Interconnection Reliability Operations Five-Year Review Team (FYRT) recommendations to revise IRO-006-EAST-1 and IRO-009-1.

The FYRT originally reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-EAST, IRO-008-1, IRO-009-1 and IRO-010-1a, and recommended revising all of these standards except for IRO-006-5, which was reaffirmed by the NERC Board of Trustees (Board). Additionally, Project 2014-03 Revisions to TOP and IRO Standards, retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-EAST-1 and IRO-009-1 with outstanding recommendations for revision.

Based on the FYRT's recommendation to revise IRO-009-1 and industry comments in response to the 30-day informal comment period for the Project ending on April 15, 2015 the Project standard drafting team (SDT) recommends revising the standard as reflected in the posted documents.

#### General Considerations

Reliability Standard IRO-009-2 is proposed for approval to address the recommendations of the five-year review and industry comments.

#### Effective Date

Reliability Standard IRO-009-2 shall become effective on the first day of the first calendar quarter after the date that the standard is approved by an applicable governmental authority or as otherwise

provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective the first day of the first calendar quarter after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

**Retirement of Existing Standards**

Reliability Standard IRO-009-1 shall be retired immediately prior to the effective date of IRO-009-2 in the particular jurisdiction in which the revised standard is becoming effective.

**Cross References**

The Implementation Plan for IRO-009-1 is available [here](#).

**EXHIBIT D**

**Mapping Document**



# Project 2015-06 – Interconnection Reliability Operations and Coordination

## Mapping Document | Updated May 2015

This mapping document shows the translation of Requirements in the following currently-enforceable standards to revised standards developed in Project 2015-06:

- IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection
- IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities

Standard IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection	
Requirement in Approved Standard	Proposed Language in New Standard or Comment
<p><b>R1.</b> When acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL’s TV, each Reliability Coordinator shall initiate, prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated), one or more of the following actions:</p> <ul style="list-style-type: none"> <li>• Inter-area redispatch of generation</li> <li>• Intra-area redispatch of generation</li> <li>• Reconfiguration of the transmission system</li> <li>• Voluntary load reductions (e.g., Demand-side Management)</li> <li>• Controlled load reductions (e.g., load shedding)</li> </ul>	<p>Standard IRO-006-EAST-2 — Transmission Loading Relief Procedure for the Eastern Interconnection</p> <p><b>Rationale for recommendation to retire Requirement R1:</b> <i>The IRO standard drafting team (IRO SDT) agrees with the FYRT’s assertion that IRO-006-EAST-1 Requirement R1 is redundant with IRO-008-1, Requirement R3, and IRO-009-1, Requirement R4, and that the requirements in IRO-008-1 and IRO-009-1 are results based and specify a reliability objective to be achieved. The IRO SDT further agrees with the Five Year Review Team’s (FYRT) conclusion that IRO-006-EAST-1 Requirement R1 simply provides a list of actions to be taken without any parameters for their use.</i></p>
<p><b>R2.</b> To ensure operating entities are provided with information needed to maintain an awareness of changes to the Transmission System, when initiating the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance, and at least every clock hour (with the exception of TLR-1, where an hourly update is not required) after initiation up to and including the hour when the TLR level has been</p>	<p>Standard IRO-006-EAST-2 — Transmission Loading Relief Procedure for the Eastern Interconnection</p> <p><b>R1.</b> Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance shall identify the TLR level and the congestion management actions to be implemented, and shall update this information at least every clock hour (except TLR-1) after initiation up to and including the hour when the TLR level has been identified as TLR Level 0.<sup>1</sup></p>

**Standard IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection**

Requirement in Approved Standard	Proposed Language in New Standard or Comment
<p>identified as TLR Level 0, the Reliability Coordinator shall identify:</p> <ul style="list-style-type: none"> <li><b>2.1.</b> A list of congestion management actions to be implemented, and</li> <li><b>2.2.</b> One of the following TLR levels: TLR-1, TLR-2, TLR-3A, TLR-3B, TLR-4, TLR-5A, TLR-5B, TLR-6, TLR-0</li> </ul>	<hr/> <p><sup>1</sup> For more information on TLR levels, please see “Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document.”</p> <p><b><i>Rationale for revisions to new Requirement R1 (previously Requirement R2):</i></b> The IRO SDT provided edits to improve clarity and to incorporate and simplify the sub-requirements into the main requirement.</p>
<p><b>R3.</b> Upon the identification of the TLR level and a list of congestion management actions to be implemented, the Reliability Coordinator initiating this TLR procedure shall:</p> <ul style="list-style-type: none"> <li><b>3.1.</b> Notify all Reliability Coordinators in the Eastern Interconnection of the identified TLR level</li> <li><b>3.2.</b> Communicate the list of congestion management actions to be implemented to 1.) all Reliability Coordinators in the Eastern Interconnection, and 2.) those Reliability Coordinators in other Interconnections responsible for curtailing Interchange Transactions crossing Interconnection boundaries identified in the list of congestion management actions.</li> <li><b>3.3.</b> Request that the congestion management actions identified in Requirement R2, Part 2.1 be implemented by: <ul style="list-style-type: none"> <li>1.) Each Reliability Coordinator associated with a Sink Balancing Authority for which Interchange Transactions are to be curtailed,</li> </ul> </li> </ul>	<p>Standard IRO-006-EAST-2 — Transmission Loading Relief Procedure for the Eastern Interconnection</p> <p><b><i>Rationale for recommendation to retire Requirement R3:</i></b> The IRO SDT agrees with the FYRT’s determination that the intent of Requirement R3 is not to define a curtailment process when the Interchange Distribution Calculator (IDC) is compromised or unavailable. In the event of an IDC failure, TLR action would be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System. The IRO SDT further agrees with the FYRT’s assertion that Requirement R3 contains actions that are automatically generated via the IDC tool and sent to proper entities upon issuance of the TLR. This requirement should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.<sup>1</sup></p>

<sup>1</sup> Paragraph 81 Criteria available at: [http://www.nerc.com/pa/Stand/Project%20200812%20Coordinate%20Interchange%20Standards%20DL/Paragraph\\_81\\_Criteria.pdf](http://www.nerc.com/pa/Stand/Project%20200812%20Coordinate%20Interchange%20Standards%20DL/Paragraph_81_Criteria.pdf).

**Standard IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection**

Requirement in Approved Standard	Proposed Language in New Standard or Comment
<p>2.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which Network Integration Transmission Service or Native Load is to be curtailed, and</p> <p>3.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which its Market Flow is to be curtailed.</p>	
<p><b>R4.</b> Each Reliability Coordinator that receives a request as described in Requirement R3, Part 3.3. shall, within 15 minutes of receiving the request, implement the congestion management actions requested by the issuing Reliability Coordinator as follows:</p> <ul style="list-style-type: none"> <li>• Instruct its Balancing Authorities to implement the Interchange Transaction schedule change requests.</li> <li>• Instruct its Balancing Authorities to implement the Network Integration Transmission Service and Native Load schedule changes for which the Balancing Authorities are responsible.</li> <li>• Instruct its Balancing Authorities to implement the Market Flow schedule changes for which the Balancing Authorities are responsible.</li> <li>• If an assessment determines shows that one or more of the congestion management actions communicated in Requirement R3, Part 3.3 will result in a reliability concern or will be ineffective, the Reliability Coordinator may replace those specific actions with alternate congestion management actions, provided that:</li> </ul>	<p align="center"><b>Standard IRO-006-EAST-2 — Transmission Loading Relief Procedure for the Eastern Interconnection</b></p> <p><b>R2.</b> Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority to implement the congestion management actions within 15 minutes of receiving the request from the issuing Reliability Coordinator, subject to the following exception:</p> <ul style="list-style-type: none"> <li>• Should an assessment determine that one or more of the congestion management actions communicated will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions with the issuing Reliability Coordinator.</li> </ul> <p><b><i>Rationale for Revisions to new Requirement R2 (previously Requirement R4):</i></b> The IRO SDT provided edits to improve clarity and to incorporate and simplify some of the bullets into the main requirement, and modified the remaining bullet to be a requirement instead of a passive statement.</p>

**Standard IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection**

<b>Requirement in Approved Standard</b>	<b>Proposed Language in New Standard or Comment</b>
<ul style="list-style-type: none"><li>• The alternate congestion management actions have been agreed to by the initiating Reliability Coordinator, and</li><li>• The assessment shows that the alternate congestion management actions will not adversely affect reliability.</li></ul>	

**Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities**

Requirement in Approved Standard	Proposed Language in New Standard or Comment
<p><b>R1.</b> For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) that can be implemented in time to prevent exceeding those IROLs.</p>	<p>Standard IRO-009-2 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities</p> <p><b>R1.</b> For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions the Reliability Coordinator shall take or actions the Reliability Coordinator shall direct others to take (up to and including load shedding):</p> <p><b>1.1</b> That can be implemented in time to prevent the identified IROL exceedance.</p> <p><b>1.2</b> To mitigate the magnitude and duration of an IROL exceedance such that the IROL is relieved within the IROL’s Tv.</p>
<p><b>R2.</b> For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) to mitigate the magnitude and duration of exceeding that IROL such that the IROL is relieved within the IROL’s Tv.</p>	<p>Standard IRO-009-2 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities</p> <p><b>Rationale for revisions to this Requirement (previously Requirement R2):</b> <i>The IRO SDT revised this requirement by combining IRO-009-1 Requirements R1 and R2 to form one requirement, Requirement R1, with two subparts to make the requirements more concise, as both requirements contained similar language.</i></p>
<p><b>R3.</b> When an assessment of actual or expected system conditions predicts that an IROL in its Reliability Coordinator Area will be exceeded, the Reliability Coordinator shall implement one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) to prevent exceeding that IROL.</p>	<p>Standard IRO-009-2 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities</p> <p><b>R2.</b> Each Reliability Coordinator shall initiate one or more Operating Processes, Procedures, or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirement R1) that are intended to prevent an IROL exceedance, as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.</p> <p><b>Rationale for revisions to new Requirement R2 (previously Requirement R3):</b> <i>The IRO SDT revised the language of this requirement to improve clarity as well as consistency with similar</i></p>

**Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities**

Requirement in Approved Standard	Proposed Language in New Standard or Comment
	<p><i>NERC Board of Trustees (Board) approved standards, such as, TOP standard revisions (TOP-001-3 R14); "IROL exceedance," "Real Time monitoring," and "Real Time Assessments."</i></p>
<p><b>R4.</b> When actual system conditions show that there is an instance of exceeding an IROL in its Reliability Coordinator Area, the Reliability Coordinator shall, without delay, act or direct others to act to mitigate the magnitude and duration of the instance of exceeding that IROL within the IROL’s Tv.</p>	<p>Standard IRO-009-2 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities</p> <p><b>R3.</b> Each Reliability Coordinator shall act or direct others to act so that the magnitude and duration of an IROL exceedance is mitigated within the IROL’s Tv, as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.</p> <p><b>Rationale for Revisions to Requirement R3 (previously Requirement R4):</b> <i>The IRO SDT removed the term “without delay” from the requirement upon determining that the point of time at which the requirement is triggered is inherent in the requirement itself. The IRO SDT also revised the language of this requirement to improve clarity as well as consistency with similar Board approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real Time monitoring,” and “Real Time Assessments.”</i></p>
<p><b>R5.</b> If unanimity cannot be reached on the value for an IROL or its Tv, each Reliability Coordinator that monitors that Facility (or group of Facilities) shall, without delay, use the most conservative of the values (the value with the least impact on reliability) under consideration.</p>	<p>Standard IRO-009-2 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities</p> <p><b>R4.</b> Each Reliability Coordinator shall operate to the most limiting IROL and Tv in instances where there is a difference in an IROL or its Tv between Reliability Coordinators that are responsible for that Facility (or group of Facilities).</p> <p><b>Rationale for revisions to Requirement R4 (previously Requirement R5):</b> <i>The IRO SDT revised the language of this requirement for clarity as well as consistency with similar Board approved standards, such as TOP standard revisions (TOP-001-3 R18). The IRO SDT retained clarifying language to limit applicability to appropriate affected RCs.</i></p>

## **EXHIBIT E**

### **Analysis of Violation Risk Factors and Violation Severity Levels**

# Violation Risk Factor and Violation Severity Level Justifications

Project 2015-06 Interconnection Reliability Operations and Coordination

IRO-006-EAST-2, IRO-009-2

## Violation Risk Factor and Violation Severity Level Justifications

This document provides the drafting team's justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for each requirement in IRO-006-EAST-2 (Transmission Loading Relief Procedure for the Eastern Interconnection) and IRO-009-2 (Reliability Coordinator Actions to Operate within IROLs).

Each primary requirement is assigned a VRF and a set of one or more VSLs. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the ERO Sanction Guidelines.

The Interconnection Reliability Operations and Coordination Standard Drafting Team applied the following NERC criteria and FERC Guidelines when proposing VRFs and VSLs for the requirements under this project:

### NERC Criteria – VRFs

#### High Risk Requirement

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

#### Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to



effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

### **Lower Risk Requirement**

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

## **FERC VRF Guidelines**

### **Guideline (1) — Consistency with the Conclusions of the Final Blackout Report**

The Commission seeks to ensure that VRFs assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System.

In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings
- Synchronized data recorders
- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief

### **Guideline (2) — Consistency within a Reliability Standard**

The Commission expects a rational connection between the sub-Requirement VRF assignments and the main Requirement VRF assignment.

**Guideline (3) — Consistency among Reliability Standards**

The Commission expects the assignment of VRFs corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

**Guideline (4) — Consistency with NERC’s Definition of the VRF Level**

Guideline 4 was developed to evaluate whether the assignment of a particular VRF level conforms to NERC’s definition of that risk level.

**Guideline (5) — Treatment of Requirements that Co-mingle More Than One Obligation**

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

## Consideration of FERC VRF Guidelines

The following discussion addresses how the SDT considered FERC’s VRF Guidelines 2 through 5. The team did not address Guideline 1 directly because of an apparent conflict between Guidelines 1 and 4. Whereas Guideline 1 identifies a list of topics that encompass nearly all topics within NERC’s Reliability Standards and implies that these requirements should be assigned a “High” VRF, Guideline 4 directs assignment of VRFs based on the impact of a specific requirement to the reliability of the system. The SDT believes that Guideline 4 is reflective of the intent of VRFs in the first instance and therefore concentrated its approach on the reliability impact of the requirements.

### IRO-006-EAST-2

Reliability Standard IRO-006-EAST-2 is a revision of IRO-006-EAST-1 TLR Procedure for the Eastern Interconnection, with the following stated purpose: “To ensure coordinated action between Reliability Coordinators within the Eastern Interconnection when implementing transmission loading relief procedures (TLR) for the Eastern Interconnection to prevent or manage potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).”

Reliability Standard IRO-006-EAST-2 has two (2) requirements that address identification of TLR level(s) and identification and instruction to implement congestion management actions. The requirements originated from revisions to two (2) requirements that existed in Reliability Standard IRO-006-EAST-1, Requirement R2 and Requirement R4. Reliability Standard IRO-006-EAST-2 seeks to retire two (2) other requirements that existed in IRO-006-EAST-1, Requirement R1 and Requirement R3. As such, the VRFs and VSLs associated with IRO-006-EAST-1, Requirement R1 and Requirement R3 have not been included in IRO-006-EAST-2.

Reliability Standard IRO-006-EAST-2 Requirement R1 maps to IRO-006-EAST-1 Requirement R2, and IRO-006-EAST-2 Requirement R2 maps to IRO-006-EAST-1 Requirement R4. The drafting team did not revise the VRFs for the requirements of IRO-006-EAST-2 Requirement R1 or Requirement R2.

The drafting team revised the VSL for IRO-006-EAST-2 Requirement R2 to conform to the revisions to the language of IRO-006-EAST-2 Requirement R2.

### **IRO-009-2**

Reliability Standard IRO-009-2 is a revision of IRO-009-1 Reliability Coordinator Actions to Operate Within IROLs, with the following stated purpose: To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).

Reliability Standard IRO-009-2 has four (4) requirements that address Reliability Coordinator Operating Process, Procedure, or Plans that identify actions the Reliability Coordinator shall take or actions the Reliability Coordinator shall direct others to take to prevent exceeding that IROL, that can be implemented in time to prevent exceeding the identified IROL, mitigate exceeding that IROL within the IROL's Tv, Operating Processes, Procedures or Plans to prevent an IROL exceedance as part of its Real-time monitoring or Real-time Assessment, acts the Reliability Coordinator shall take or direct others to take so that the magnitude and duration of an IROL exceedance is mitigated within the IROL's Tv as part of its Real-time monitoring or Real-time Assessment, and Reliability Coordinator operation to the most limiting IROL and Tv in instances where there is a difference in an IROL or its Tv between Reliability Coordinators that are responsible for a Facility (or group of Facilities). The requirements originated from revisions to the five (5) requirements that existed in IRO-009-1, Requirement R1 through Requirement R5. Reliability Standard IRO-009-2 seeks to revise Requirement R1 and R2 by incorporating the requirements from Requirement R2 into Requirement R1 as Part R1.1 and R1.2.

The IRO-009-2 Requirement R1 maps to IRO-009-1 Requirement R1 and Requirement R2. The VRFs for IRO-009-1 Requirement R1 and Requirement R2 were both medium, therefore, the drafting team did not revise the VRFs for the requirements when revising IRO-009-2 Requirement R1 to include IRO-009-1 Requirement R2.

Reliability Standard IRO-009-2 Requirement R2 maps to IRO-009-1 Requirement R3; IRO-009-2 Requirement R3 maps to IRO-009-1 Requirement R4; IRO-009-2 Requirement R4 maps to IRO-009-1 Requirement R5. The drafting team did not revise the VRFs for the requirements of IRO-006-EAST-1 Requirement R3, Requirement R4, or Requirement R5.

The drafting team revised the VSLs for IRO-009-2 Requirements R2 through R4 to conform to the revisions to the language of IRO-009-2 Requirements R2 through R4.

**NERC Criteria - VSLs**

VSLs define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one (1) VSL. While it is preferable to have four (4) VSLs for each requirement, some requirements do not have multiple “degrees” of noncompliant performance and may have only one (1), two (2), or three (3) VSLs.

VSLs should be based on the guidelines shown in the table below:

Lower	Moderate	High	Severe
<p>Missing a minor element (or a small percentage) of the required performance</p> <p>The performance or product measured has significant value as it almost meets the full intent of the requirement.</p>	<p>Missing at least one significant element (or a moderate percentage) of the required performance.</p> <p>The performance or product measured still has significant value in meeting the intent of the requirement.</p>	<p>Missing more than one significant element (or is missing a high percentage) of the required performance or is missing a single vital Component.</p> <p>The performance or product has limited value in meeting the intent of the requirement.</p>	<p>Missing most or all of the significant elements (or a significant percentage) of the required performance.</p> <p>The performance measured does not meet the intent of the requirement or the product delivered cannot be used in meeting the intent of the requirement.</p>

## FERC Order on VSLs

In its June 19, 2008 Order<sup>1</sup> on VSLs, FERC indicated it would use the following four guidelines for determining whether to approve VSLs:

### **Guideline 1: VSL Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance**

- Compare the VSLs to any prior Levels of Non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when Levels of Non-compliance were used.

### **Guideline 2: VSL Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties**

- Guideline 2a: A violation of a “binary” type requirement must be a “Severe” VSL.
- Guideline 2b: Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

### **Guideline 3: VSL Assignment Should Be Consistent with the Corresponding Requirement**

- VSLs should not expand on what is required in the requirement.

### **Guideline 4: VSL Assignment Should Be Based on a Single Violation, Not on a Cumulative Number of Violations**

- . . . unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the “default” for penalty calculations.

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<sup>1</sup> *Order on Violation Severity levels Proposed by the Electric Reliability Organization*, 123 FERC ¶61,284 (2008)

VRF and VSL Justifications

VRF and VSL Justifications – IRO-006-EAST-2, R2			
Proposed VSL – IRO-006-EAST-2, R2			
Lower	Moderate	High	Severe
			The responding Reliability Coordinator did not, within 15 minutes of receiving a request, either 1) instruct the Sink Balancing Authority to implement all the requested congestion management actions, or 2) coordinate alternate congestion management actions with the issuing Reliability Coordinator, provided that: assessment showed that the actions replaced would have resulted in a reliability concern or would have been ineffective.
FERC VSL G3 VSL Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.		
FERC VSL G4	The VSL is based on a single violation and not cumulative violations.		

**VRF and VSL Justifications – IRO-006-EAST-2, R2**

**Proposed VSL – IRO-006-EAST-2, R2**

VSL Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations

VRF and VSL Justifications – IRO-009-2, R1	
Proposed VRF – IRO-009-2, R1	
Proposed VRF	Medium
NERC VRF Discussion	Failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv could directly affect the electrical state or the capability of the bulk power system. However, violation of this requirement is unlikely to lead to bulk power system instability, separation, or cascading failures. The applicable entities are always responsible for maintaining the reliability of the bulk power system regardless of the situation. This VRF emphasizes the risk to system performance that results from failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv. Failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv will not, by themselves, lead to instability, separation, or cascading failures. Thus, the requirement meets NERC’s criteria for a Medium VRF.
FERC VRF G1 Discussion	Guideline 1- Consistency w/ Blackout Report: N/A
FERC VRF G2 Discussion	Guideline 2- Consistency within a Reliability Standard: The requirement has no sub-requirements so only one VRF was assigned. The requirement utilizes Parts to identify the items to be included within the requirement. The VRF for this requirement is consistent with others in the standard with regard to relative risk; therefore, there is no conflict.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards:



**VRF and VSL Justifications – IRO-009-2, R1**

**Proposed VRF – IRO-009-2, R1**

	<p>Since the SDT revised the requirement to include a requirement that was already approved along with its associated VRF and VSL, the SDT concludes that there is consistency among existing approved Standards relative to requirements of this nature. The SDT has assigned a Medium VRF, which is consistent with the VRF that this requirement and the requirement that was combined with this requirement were previously assigned in the approved standard.</p>
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VRF and VSL Justifications – IRO-009-2, R1			
Proposed VRF – IRO-009-2, R1			
Proposed VRF	Medium		
FERC VRF G4 Discussion	<p>Failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv could directly affect the electrical state or the capability of the bulk power system. However, violation of this requirement is unlikely to lead to bulk power system instability, separation, or cascading failures. The applicable entities are always responsible for maintaining the reliability of the bulk power system regardless of the situation. This VRF emphasizes the risk to system performance that results from failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv. Failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv will not, by themselves, lead to instability, separation, or cascading failures. Thus, the requirement meets NERC’s criteria for a Medium VRF.</p>		
FERC VRF G5 Discussion	<p>Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation: This requirement establishes a single risk-level, and the assigned VRF is consistent with that risk level.</p>		
Proposed VSL – IRO-009-2, R1			
Lower	Moderate	High	Severe
			<p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to</p>

			<p>prevent exceeding that IROL (Part 1.1).</p> <p style="text-align: center;">OR</p> <p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL's Tv. (Part 1.2)</p>
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VRF and VSL Justifications – IRO-009-2, R1	
Proposed VSL – IRO-009-2, R1	
FERC VSL G3 VSL Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.
FERC VSL G4 VSL Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.

VRF and VSL Justifications – IRO-009-2, R2			
Proposed VSL – IRO-009-2, R2			
Lower	Moderate	High	Severe
			No Operating Processes, Procedures, or Plans were initiated that were intended to prevent a predicted IROL exceedance as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.
FERC VSL G3 VSL Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.		
FERC VSL G4 VSL Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.		

VRF and VSL Justifications – IRO-009-2, R3			
Proposed VSL – IRO-009-2, R3			
Lower	Moderate	High	Severe
			Actual system conditions showed that there was an IROL exceedance

VRF and VSL Justifications – IRO-009-2, R3			
Proposed VSL – IRO-009-2, R3			
			in its Reliability Coordinator Area, and that the IROL exceedance was not mitigated within the IROL’s Tv.
FERC VSL G3 VSL Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.		
FERC VSL G4 VSL Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.		

VRF and VSL Justifications – IRO-009-2, R4			
Proposed VSL – IRO-009-2, R4			
Lower	Moderate	High	Severe
			The most limiting IROL or its Tv was not operated to between Reliability Coordinators that are responsible for the Facility (or group of Facilities) associated with the IROL.
FERC VSL G3	The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.		

**VRF and VSL Justifications – IRO-009-2, R4**

**Proposed VSL – IRO-009-2, R4**

<p>VSL Assignment Should Be Consistent with the Corresponding Requirement</p>	
<p>FERC VSL G4 VSL Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL is based on a single violation and not cumulative violations.</p>

**EXHIBIT F**

**Summary of Development History and Complete Record of Development**



## **Summary of Development History**

## **Summary of Development History**

The development record for proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 is summarized below.

### **I. Overview of the Standard Drafting Team**

When evaluating a proposed Reliability Standard, the Commission is expected to give “due weight” to the technical expertise of the ERO.<sup>1</sup> The technical expertise of the ERO is derived from the standard drafting team. For this project, the standard drafting team consisted of industry experts, all with a diverse set of experiences. A roster of the standard drafting team members is included in **Exhibit G**.

### **II. Standard Development History**

#### **A. Standard Authorization Request Development**

Development in Project 2015-06 was completed in direct relation to recommendations provided by the Project 2012-09 Interconnection Reliability Operations Five-Year Review Team (“IRO FYRT”) to revise all eight<sup>2</sup> Interconnection Reliability Operations (“IRO”) standards reviewed in that project. A Standard Authorization Request (“SAR”) and final set of recommendations for six IRO standards was submitted to the Standards Committee (“SC”) on October 17, 2013.

At the same time that the IRO FYRT was providing its recommendations, the standard drafting team for a separate project, Project 2014-03 – Revisions to TOP and IRO Standards, recommended that five IRO Standards be retired. The standards proposed for retirement in Project 2014-03 were Reliability Standards IRO-003-2, IRO-

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<sup>1</sup> Section 215(d)(2) of the Federal Power Act; 16 U.S.C. §824(d) (2) (2012).

<sup>2</sup> The IRO FYRT reviewed Reliability Standards IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-EAST, IRO-008-1, IRO-009-1, and IRO-010-1a.

004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only two standards from those standards proposed for revision by the IRO FYRT.<sup>3</sup>

The SAR created in Project 2012-09 was accepted by the SC as the precursor for development in Project 2015-06 on March 11, 2015, and it was posted for a 30-day public comment period from March 16, 2015 through April 15, 2015.<sup>4</sup>

### **B. First Posting (Comment, Ballot, and Non-Binding Poll)**

Proposed Reliability Standards IRO-006 EAST-2 and IRO-009-2 were posted for a 45-day public comment period from May 21, 2015 through July 9, 2015, with an initial ballot held from June 29, 2015 through July 9, 2015. Several documents were posted for guidance with the first draft, including the Unofficial Comment Form, Mapping Document, and Violation Risk Factors (“VRFs”) and Violation Severity Levels (“VSLs”) Justification Documents. The initial ballot for Reliability Standard IRO-006-EAST-2 received 75.23% quorum, and 90.35% approval. The initial ballot for Reliability Standard IRO-009-2 received 84.00% quorum, and 97.50% approval. The Non-Binding Poll for Reliability Standard IRO-006 EAST-2 received 84.62% quorum and 91.84% of supportive opinions. The Non-Binding Poll for Reliability Standard IRO-009-2 received 81.86% quorum and 96.46% of supportive opinions. There were 29 sets of comments,

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<sup>3</sup> On March 18, 2015, in Docket Nos. RM13-12-001, RM13-14-001 and RM13-15-001, NERC submitted for Commission approval five IRO Standards for retirement: IRO-003-2 (Reliability Coordination-Wide Area View), IRO-004-2 (Reliability Coordination-Operations Planning), IRO-005-4 (Reliability Coordination-Current Day Operations), IRO-008-1 (Reliability Coordinator Operational Analyses and Real-time Assessments), and IRO-010-1a (Reliability Coordinator Data Specification and Collection).

<sup>4</sup> NERC, *Consideration of Comments*, Project 2015-06 Interconnection Reliability Operations and Coordination-IRO-006-EAST and IRO-009, (May 21, 2015), available at [http://www.nerc.com/pa/Stand/Project%202012091%20Interconnection%20Reliability%20Operat/Comment%20Report\\_2015-06\\_IRO\\_2015\\_05\\_18\\_Initial%20Posting\\_SDT.pdf](http://www.nerc.com/pa/Stand/Project%202012091%20Interconnection%20Reliability%20Operat/Comment%20Report_2015-06_IRO_2015_05_18_Initial%20Posting_SDT.pdf).

including comments from approximately 89 different individuals and approximately 64 companies, representing nine (9) of the ten (10) industry segments.<sup>5</sup>

### **C. Final Ballot**

Proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 were posted for a 10-day final ballot period from July 22, 2015, through July 31, 2015. Proposed Reliability Standard IRO-006-EAST-2 received 85.98% quorum and 88.23% approval. Proposed Reliability Standard IRO-009-2 received 90.67% quorum and 96.84% approval.

### **D. Board of Trustees Adoption**

Proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 were adopted by the NERC Board of Trustees on August 13, 2015.<sup>6</sup>

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<sup>5</sup> NERC, *Consideration of Comments* (July 22, 2015), available at [http://www.nerc.com/pa/Stand/Project%202012091%20Interconnection%20Reliability%20Operat/2015-06\\_IRO\\_006-East\\_IRO-009\\_Consideration%20of%20Comments\\_Final\\_2015\\_07\\_21.pdf](http://www.nerc.com/pa/Stand/Project%202012091%20Interconnection%20Reliability%20Operat/2015-06_IRO_006-East_IRO-009_Consideration%20of%20Comments_Final_2015_07_21.pdf).

<sup>6</sup> See Board Agenda – Board of Trustees Meeting – Aug. 13, 2015, available at [http://www.nerc.com/gov/bot/botquarterlyitems/Board\\_August\\_13\\_2015\\_Agenda\\_Package.pdf](http://www.nerc.com/gov/bot/botquarterlyitems/Board_August_13_2015_Agenda_Package.pdf).

## **Complete Record of Development**

[Program Areas & Departments](#) > [Standards](#) > [Project 2015-06 Interconnection Reliability Operations and Coordination - IRO-006-East and IRO-009](#)

## Project 2015-06 Interconnection Reliability Operations and Coordination - IRO-006-East and IRO-009

[Related Files](#) | [2006-08 Reliability Coordination](#) | [2012-09 IRO Review](#) | [2014-03 Revisions to TOP and IRO Standards](#)

### Status

Final ballots for **IRO-006-EAST — TLR Procedure for the Eastern Interconnection** and **IRO-009 — Reliability Coordinator Actions to Operate Within IROs** concluded at **8 p.m. Eastern, Friday, July 31, 2015**. The voting results can be accessed via the links below. The standards will be submitted to the Board of Trustees for adoption and then filed with the appropriate regulatory authorities.

### Background

Project 2015-06 continues the work done by the Project 2012-09 Interconnection Reliability Operations five-year review team. That review resulted in a recommended drafting effort, so a separate drafting team has been tasked with Project 2015-06. The Project 2012-09 IRO Five-Year Review Team reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-East, IRO-008-1, IRO-009-1 and IRO-010-1a. All standards were recommended for revision except IRO-006-5, which was affirmed by the review team. A final set of recommendations and SAR were submitted to the Standards Committee for consideration in October 2013. Since then, Project 2014-03, Revisions to TOP and IRO Standards, recommended retirement of IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-East and IRO-009-1 in need of revision.

**Standard(s) Affected** - IRO-006-East, IRO-009-1

### Purpose/Industry Need

Project 2015-06 is needed to implement the Project 2012-09 five-year review recommendations. Since Project 2012-09 was scoped, a number of initiatives have been implemented to improve the overall quality of the NERC standards, including retirement of unnecessary or redundant requirements under Paragraph 81, consideration of Independent Expert Review Panel recommendations, and implementation of results-based concepts in the standards. Therefore, the Project 2015-06 standard drafting team will consider elements of a periodic review in addition to industry comments as it implements the five-year review team's recommendations.

Draft	Actions	Dates	Results	Consideration of Comments
<p align="center"><b>Final Drafts</b></p> <p align="center"><b>IRO-006-EAST</b> Clean (31)   Redline to Last Posted (32)   Redline to Last Approved (33)</p> <p align="center"><b>IRO-009</b> Clean (34)   Redline to Last Posted (35)   Redline to Last Approved (36)</p> <p align="center"><b>Implementation Plans</b></p> <p align="center"><b>IRO-006-EAST</b> Clean (37)   Redline to Last Posted (38)</p> <p align="center"><b>IRO-009</b> Clean (39)   Redline to Last Posted (40)</p>	<p align="center">Final Ballots</p> <p align="center">Info (41)</p> <p align="center">Vote</p>	<p align="center">07/22/15 - 07/31/15</p>	<p align="center">Summary (42)</p> <p align="center">Ballot Results</p> <p align="center">IRO-006-EAST (43)</p> <p align="center">IRO-009 (44)</p>	
<p align="center"><b>Draft 1</b></p> <p align="center"><b>IRO-006-EAST</b> Clean (12)   Redline to Last Approved (13)</p> <p align="center"><b>IRO-009</b> Clean (14)   Redline to Last Approved (15)</p> <p align="center"><b>Implementation Plans</b> IRO-006-EAST (16) IRO-009 (17)</p> <p align="center"><b>Supporting Materials</b> Unofficial Comment Form (Word) (18) Mapping Document (19) VRF/VSL Justification (20)</p>	<p align="center">Initial Ballots and Non-binding Polls</p> <p align="center">Updated Info (21)</p> <p align="center">Info (22)</p> <p align="center">Vote</p> <p align="center">Comment Period</p> <p align="center">Info (23)</p> <p align="center">Submit Comments</p> <p align="center">Join Ballot Pools</p>	<p align="center">06/29/15 – 07/09/15</p> <p align="center">The ballot for IRO-009 and non-binding polls for IRO-006-EAST and IRO-009 were extended an additional day (from 07/08/15) to reach quorum</p> <p align="center">05/21/15 – 7/09/15</p> <p align="center">05/21/15 – 06/19/15</p>	<p align="center">Summary (24)</p> <p align="center">Ballot Results</p> <p align="center">IRO-006-EAST (25)</p> <p align="center">IRO-009 (26)</p> <p align="center">Non-binding Poll Results</p> <p align="center">IRO-006-EAST (27)</p> <p align="center">IRO-009 (28)</p> <p align="center">Comments Received (29)</p>	<p align="center">Consideration of Comments (30)</p>

<p><b>IRO-006-EAST</b> Draft RSAW</p> <p><b>IRO-009</b> Draft RSAW</p>	<p>Send RSAWs feedback to: RSAWfeedback@nerc.net</p>	<p>06/03/15 – 07/08/15</p>		
<p><b>SAR (3)</b> <b>Supporting Materials</b></p> <p>Unofficial Comment Form (Word) (4) <b>Proposed Redlines to Standards</b> IRO-006-East (5) IRO-009 (6)</p> <p><b>Five-Year Review Templates</b> IRO-006-East (7) IRO-009 (8)</p>	<p>Comment Period</p> <p>Info (9)</p> <p>Submit Comments</p>	<p>03/16/15 - 04/15/15</p>	<p>Comments Received (10)</p>	<p>Consideration of Comments (11)</p>
<p><b>Nominations for Standard Drafting Team</b></p> <p><b>Supporting Materials</b></p> <p>Nomination Form (Word) (1)</p>	<p>Nomination Period</p> <p>Info (2)</p> <p>Submit Nomination</p>	<p>03/13/15 - 03/23/15</p>		



# Unofficial Nomination Form

## Nomination Solicitation for Project 2015-06 Interconnection Reliability Operations and Coordination Standards Drafting Team

Complete the [electronic nomination form](#) as soon as possible, but no later than **March 23, 2015**. This unofficial version is provided to assist nominees in compiling the information necessary to submit the electronic form. If you have any questions, please contact [Katherine Street](#).

By submitting a nomination form, you are indicating your willingness and agreement to actively participate in the drafting team meetings if appointed by the NERC Standards Committee. If appointed, you are expected to attend most of the face-to-face drafting team meetings as well as participate in all the team meetings held via conference calls

The time commitment for this project is expected to be one face-to-face meeting every other month (on average two full working days) with conference calls scheduled as needed to meet the agreed upon timeline the drafting team sets forth after consultation with NERC staff and the NERC Standards Committee. The drafting team also may have ancillary responsibilities, either individually or by subgroup, to present to the larger team for discussion and review. Lastly, an important component of the drafting team efforts is outreach. Team members should conduct outreach during standards development prior to posting to ensure all issues can be discussed and resolved.

Nominations are being sought for the following project. Previous review or drafting team experience is beneficial but not required. A brief description of the desired qualifications and other pertinent information for the project is included below.

- Project 2015-06: Interconnection Reliability Operations and Coordination – IRO-006-East & IRO-009
- *Expected 2015 August or November NERC Board of Trustees (Board) presentation for adoption*

### **Project 2015-06 Interconnection Reliability Operations and Coordination**

The purpose of this project is to continue work done by the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team. As the Five-Year Review resulted in a recommended drafting effort, a separate drafting team will be tasked with Project 2015-06. The Project 2012-09 IRO Five-Year Review Team reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-East, IRO-008-1, IRO-009-1 and IRO-010-1a and posted eight draft recommendations for a 45-day industry comment period that ended on September 20, 2013. All standards were recommended for revision except IRO-006-5, which was affirmed by the team and presented to the Board in Feb 2014 for approval. A final set of recommendations and Standard Authorization Request (SAR) were submitted to the Standards Committee for consideration at the Standards Committee's October 2013 meeting. However, Project 2014-03, Revisions to TOP and IRO

Standards, retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-East and IRO-009-1 in need of revision.

**Standards affected:** IRO-006-East and IRO-009-1

NERC is seeking a cross section of the industry to participate on the team, but in particular is seeking individuals who have experience and expertise with Interconnection Reliability Operating Limits and communicating the methodologies across the United States and Canada.

Experience with developing standards inside or outside (e.g., IEEE, NAESB, ANSI, etc.) of the NERC process is beneficial, but is not required, and should be highlighted in the information submitted, if applicable.

Individuals who have facilitation skills and experience or legal or technical writing backgrounds are also strongly desired. Please include this in the description of qualifications as applicable.

**Please provide the following information for the nominee:**

<b>Name:</b>	
<b>Title:</b>	
<b>Organization:</b>	
<b>Address:</b>	
<b>Telephone:</b>	
<b>Email:</b>	

- Project 2015-06: Interconnection Reliability Operations and Coordination – IRO-006-East & IRO-009

**Please briefly describe the nominee’s experience and qualifications to serve on the selected project(s):**

**If you are currently a member of any NERC SAR or standard drafting team, please list each team here:**

- Not currently on any active SAR or standard drafting team.
- Currently a member of the following SAR or standard drafting team(s):

**If you previously worked on any NERC SAR or standard drafting team, please identify the team(s):**

- No prior NERC SAR or standard drafting team.
- Prior experience on the following SAR or standard drafting team(s):

**Select each NERC Region in which you have experience relevant to Project 2010-02:**

<input type="checkbox"/> ERCOT	<input type="checkbox"/> NPCC	<input type="checkbox"/> SPP
<input type="checkbox"/> FRCC	<input type="checkbox"/> RF	<input type="checkbox"/> WECC
<input type="checkbox"/> MRO	<input type="checkbox"/> SERC	<input type="checkbox"/> NA – Not Applicable

**Select each Industry Segment that you represent:**

<input type="checkbox"/>	1 — Transmission Owners
<input type="checkbox"/>	2 — RTOs, ISOs
<input type="checkbox"/>	3 — Load-serving Entities
<input type="checkbox"/>	4 — Transmission-dependent Utilities
<input type="checkbox"/>	5 — Electric Generators
<input type="checkbox"/>	6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/>	7 — Large Electricity End Users
<input type="checkbox"/>	8 — Small Electricity End Users
<input type="checkbox"/>	9 — Federal, State, and Provincial Regulatory or other Government Entities
<input type="checkbox"/>	10 — Regional Reliability Organizations and Regional Entities
<input type="checkbox"/>	NA – Not Applicable

**Select each Function<sup>1</sup> in which you have current or prior expertise:**

<input type="checkbox"/> Balancing Authority	<input type="checkbox"/> Transmission Operator
<input type="checkbox"/> Compliance Enforcement Authority	<input type="checkbox"/> Transmission Owner
<input type="checkbox"/> Distribution Provider	<input type="checkbox"/> Transmission Planner
<input type="checkbox"/> Generator Operator	<input type="checkbox"/> Transmission Service Provider
<input type="checkbox"/> Generator Owner	<input type="checkbox"/> Purchasing-selling Entity
<input type="checkbox"/> Interchange Authority	<input type="checkbox"/> Reliability Coordinator
<input type="checkbox"/> Load-serving Entity	<input type="checkbox"/> Reliability Assurer
<input type="checkbox"/> Market Operator	<input type="checkbox"/> Resource Planner
<input type="checkbox"/> Planning Coordinator	

**Provide the names and contact information for two references who could attest to your technical qualifications and your ability to work well in a group:**

Name:		Telephone:	
Organization:		Email:	

<sup>1</sup> These functions are defined in the [NERC Functional Model](#), which is available on the NERC web site.

Name:		Telephone:	
Organization:		Email:	

**Provide the names and contact information of your immediate supervisor or a member of your management who can confirm your organization's willingness to support your active participation.**

Name:		Telephone:	
Title:		Email:	

# Standards Announcement

## 2015-06 Interconnection Reliability Operations and Coordination

### Solicitation for Standard Drafting Team Nominations

#### [Now Available](#)

Nominations are being sought for **2015-06 Interconnection Reliability Operations and Coordination** standard drafting team (SDT) members through **8 p.m. Eastern, Monday, March 23, 2015**.

Previous drafting or review team experience is beneficial but not required. A brief description of the desired qualifications, expected commitment, and other pertinent information is included below. Detailed information is included on the unofficial Word version of the nomination form which can be found on the [project page](#). Use the [electronic form](#) to submit nomination(s).

The time commitment for this project is expected to be one face-to-face meeting every other month (on average two full working days) with conference calls scheduled as needed to meet the agreed upon timeline the drafting team sets forth after consultation with NERC staff and the NERC Standards Committee. The drafting team also may have ancillary responsibilities, either individually or by subgroup, to present to the larger team for discussion and review. Lastly, an important component of the drafting team efforts is outreach. Team members should conduct outreach during standards development prior to posting to ensure all issues can be discussed and resolved.

#### **Project 2015-06 Interconnection Reliability Operations and Coordination**

The purpose of this project is to continue work done by the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team. As the Five-Year Review resulted in a recommended drafting effort, a separate drafting team will be tasked with Project 2015-06. The Project 2012-09 IRO Five-Year Review Team reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-East, IRO-008-1, IRO-009-1 and IRO-010-1a and posted eight draft recommendations for a 45-day industry comment period that ended on September 20, 2013. All standards were recommended for revision except IRO-006-5, which was affirmed by the team and presented to the Board in Feb 2014 for approval. A final set of recommendations and Standard Authorization Request (SAR) were submitted to the Standards Committee for consideration at the Standards Committee's October 2013 meeting. However, Project 2014-03, Revisions to TOP and IRO Standards, retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-East and IRO-009-1 in need of revision.

**Next Steps**

The Standards Committee is expected to begin appointing members to the SDT in April 2015. Nominees will be notified shortly after they have been appointed to the SDT.

For more information or assistance, contact Standards Developer, [Katherine Street](#) (via email) or by telephone at 404-446-9702.

North American Electric Reliability Corporation  
3353 Peachtree Rd.NE  
Suite 600, North Tower  
Atlanta, GA 30326  
404-446-2560 | [www.nerc.com](http://www.nerc.com)

## Standards Authorization Request Form

When completed, please email this form to:  
[sarcomm@nerc.com](mailto:sarcomm@nerc.com)

NERC welcomes suggestions to improve the reliability of the bulk power system through improved reliability standards. Please use this form to submit your request to propose a new or a revision to a NERC's Reliability Standard.

### Request to propose a new or a revision to a Reliability Standard

Title of Proposed Standard:	Interconnected Reliability Operations (IRO-001-3, IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-EAST-1, IRO-008-1, IRO-009-1, IRO-010-1a) <sup>1</sup>		
Date Submitted:	October 17, 2013		
<b>SAR Requester Information</b>			
Name:	Robert Rhodes		
Organization:	Southwest Power Pool		
Telephone:	(501) 614-3241	E-mail:	rrhodes@spp.org
<b>SAR Type (Check as many as applicable)</b>			
<input type="checkbox"/> New Standard	<input checked="" type="checkbox"/> Withdrawal of existing Standard		
<input checked="" type="checkbox"/> Revision to existing Standard	<input type="checkbox"/> Urgent Action		

### SAR Information

Industry Need (What is the industry problem this request is trying to solve?):

This SAR will address implementation of the Five-Year Review recommendations for these standards consistent with overall NERC efforts to move standards to a steady state.

<sup>1</sup> Project 2014-03, Revisions to TOP and IRO Standards, has already retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-East and IRO-009-1 in need of revision pursuant to the periodic review recommendations. For further information, see the [Project 2014-03 project page](#).



**Standards Authorization Request Form**

SAR Information
Purpose or Goal (How does this request propose to address the problem described above?):
To improve the quality, relevance, and clarity of each of the standards and convert the standards into the Results Based Standards format while giving consideration to Paragraph 81 principles and incorporating existing interpretations into the standards.
Identify the Objectives of the proposed standard's requirements (What specific reliability deliverables are required to achieve the goal?):
To increase the effectiveness of the eight standards in their ability to ensure reliability of the BES.
Brief Description (Provide a paragraph that describes the scope of this standard action.)
<p>The IRO SDT will consider the comments received from the IRO FYRT, which includes consideration of industry comments and the report from the Industry Expert Review Panel.</p> <p>Recommendations for consideration are:</p> <ul style="list-style-type: none"> <li>• Modify the requirement to improve its clarity and measurability while removing ambiguity</li> <li>• Move and/or streamline requirements</li> <li>• Eliminate requirements based on P81 criteria</li> </ul> <p>To ensure a seamless transition from the IRO FYRT to the future IRO SDT, the IRO FYRT recommends the inclusion of interested IRO FYRT members to participate on the IRO SDT. In addition, the IRO FYRT should provide a high-level overview of their recommendations as a formal kick-off to the initial meeting to the future IRO SDT.</p>
Detailed Description (Provide a description of the proposed project with sufficient details for the standard drafting team to execute the SAR. Also provide a justification for the development or revision of the standard, including an assessment of the reliability and market interface impacts of implementing or not implementing the standard action.)
See the attached Five-Year Review templates of the eight standards, consideration of comments, issues and directives list, redlined standards, and the Industry Experts' anyalsis.

**Standards Authorization Request Form**

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

## Standards Authorization Request Form

Reliability Functions	
<input checked="" type="checkbox"/> Load-Serving Entity	Secures energy and transmission service (and reliability-related services) to serve the End-use Customer.

Reliability and Market Interface Principles	
Applicable Reliability Principles (Check all that apply).	
<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained and implemented.
<input type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.
Does the proposed Standard comply with all of the following Market Interface Principles?	
1. A reliability standard shall not give any market participant an unfair competitive advantage.	Enter (yes/no) Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

**Standards Authorization Request Form**

Related Standards	
Standard No.	Explanation
	None

Related SARs	
SAR ID	Explanation
	None
	None

Regional Variances	
Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
RFC	

## Standards Authorization Request Form

Regional Variances	
SERC	
SPP	
WECC	

# Unofficial Comment Form

## Project 2015-06 Interconnection Reliability Operations and Coordination – IRO-006-East & IRO-009

**DO NOT** use this form for submitting comments. Use the [electronic form](#) to submit comments on the draft Five-Year Review Recommendation on the IRO body of standards. Two Five-Year Review templates that show the scope of the recommended changes is also posted for information. The electronic comment form must be completed by 8:00 p.m. ET **April 15, 2015**.

If you have questions please contact [Katherine Street](#) (via email) or by telephone at 404-446-9702.

[Project Page](#)

### Background Information

The Standards Committee assigned eight subject matter experts to review the IRO standards as part of NERC's obligation to conduct periodic reviews of its standards. The Five-Year Review Team recommended certain revisions to the IRO standards to provide greater clarity and to sharpen industry focus on tasks that have a more direct impact on reliability. This recommendation is being posted for stakeholder comment prior to initiation of the Project 2015-06 Interconnection Reliability Operations and Coordination Standards Drafting Team.

The IRO Five-Year Review Team (FYRT) recommended the following actions on the standards reviewed, as further explained in the corresponding review template for each standard:

- IRO-006-East:** Revise Requirement R1 under Criterion B7 of Paragraph 81 and retire Requirement R3 under Criterion B1 of Paragraph 81. The IRO FYRT further recommends revising Requirements R2 and R4.
- IRO-009-1:** Revise Requirements R1, R4, R5, the Purpose Statement, as well as the High VSL for Requirement R4.

**Questions**

1. Do you agree with the recommendation regarding IRO-006-East? If not, please explain specifically what aspects of the recommendation you disagree with.

Yes

No

Comments:

2. Do you agree with the recommendation regarding IRO-009-1? If not, please explain specifically what aspects of the recommendation you disagree with.

Yes

No

Comments:

3. If you have any other comments on the Five-Year Review Recommendation that you have not already mentioned above, please provide them here:

Comments:

**A. Introduction**

1. **Title:** Transmission Loading Relief Procedure for the Eastern Interconnection
2. **Number:** IRO-006-EAST-~~24~~
3. **Purpose:** To provide an Interconnection-wide transmission loading relief procedure (TLR) for the Eastern Interconnection that can be used to prevent and/or mitigate potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).
4. **Applicability:**
  - 4.1. Reliability Coordinators in the Eastern Interconnection.
5. **Proposed Effective Date:** TBD

**B. Requirements**

~~**R1.** When acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's  $T_V$ , each Reliability Coordinator shall initiate, prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated), one or more of the following actions: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]~~

- ~~• Inter-area redispatch of generation~~
- ~~• Intra-area redispatch of generation~~
- ~~• Reconfiguration of the transmission system~~
- ~~• Voluntary load reductions (e.g., Demand-side Management)~~
- ~~Controlled load reductions (e.g., load shedding)~~

**R2-R1.** \_\_\_\_\_ To ensure operating entities are provided with information needed to maintain an awareness of changes to the Transmission System, when initiating the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance, and at least every clock hour (with the exception of TLR-1, where an hourly update is not required) after initiation up to and including the hour when the TLR level has been identified as TLR Level 0, the Reliability Coordinator shall identify: [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]

~~**2.1.1.1.**~~ A list of congestion management actions to be implemented, and

~~**2.2.1.2.**~~ One of the following TLR levels: TLR-1, TLR-2, TLR-3A, TLR-3B, TLR-4, TLR-5A, TLR-5B, TLR-6, TLR-0 <sup>1</sup>

~~**R3.** Upon the identification of the TLR level and a list of congestion management actions to be implemented, the Reliability Coordinator initiating this TLR~~

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<sup>1</sup> For more information on TLR levels, please see "Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document."



~~procedure shall: [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]~~

~~3.1. — Notify all Reliability Coordinators in the Eastern Interconnection of the identified TLR level~~

~~3.2. — Communicate the list of congestion management actions to be implemented to 1.) all Reliability Coordinators in the Eastern Interconnection, and 2.) those Reliability Coordinators in other Interconnections responsible for curtailing Interchange Transactions crossing Interconnection boundaries identified in the list of congestion management actions.~~

~~3.3. — Request that the congestion management actions identified in Requirement R2, Part 2.1 be implemented by:~~

~~1.) Each Reliability Coordinator associated with a Sink Balancing Authority for which Interchange Transactions are to be curtailed,~~

~~2.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which Network Integration Transmission Service or Native Load is to be curtailed, and~~

~~3.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which its Market Flow is to be curtailed.~~

R4.R2. Each Reliability Coordinator that receives a request for congestion management actions ~~as described in Requirement R3, Part 3.3.~~ shall, within 15 minutes of receiving the request, implement the congestion management actions requested by the issuing Reliability Coordinator as follows: *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

- Instruct its Balancing Authorities to implement the Interchange Transaction schedule change requests.
- Instruct its Balancing Authorities to implement the Network Integration Transmission Service and Native Load schedule changes for which the Balancing Authorities are responsible.
- Instruct its Balancing Authorities to implement the Market Flow schedule changes for which the Balancing Authorities are responsible.
- If an assessment determines ~~shows~~ that one or more of the congestion management actions communicated ~~in Requirement R3, Part 3.3~~ will result in a reliability concern or will be ineffective, the Reliability Coordinator may replace those specific actions with alternate congestion management actions, provided that:
  - The alternate congestion management actions have been agreed to by the initiating Reliability Coordinator, and
  - The assessment shows that the alternate congestion management actions will not adversely affect reliability.

## C. Measures

~~M1. Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that when acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's T<sub>v</sub>, the Reliability Coordinator initiated one or more of the actions listed in R1 prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)(R1).~~

M12. Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that at the time it initiated the Eastern Interconnection TLR procedure, and at least every clock hour after initiation up to and including the hour when the TLR level was identified as TLR Level 0, the Reliability Coordinator identified both the TLR Level and a list of congestion management actions to be implemented (R21).

~~M3. Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that after it identified a TLR level and a list of congestion management actions to take, it 1.) notified all Reliability Coordinators in the Eastern Interconnection of the TLR Level, 2.) communicated the list of actions to all Reliability Coordinators in the Eastern Interconnection and those Reliability Coordinators in other Interconnections responsible for curtailing Interchange Transactions crossing Interconnection boundaries identified in the list of congestion management actions, and 3.) requested the Reliability Coordinators identified in Requirement R3 Part 3.2 to implement the congestion management actions identified in Requirement R2 Part 2.1 (R3).~~

M24. Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that within fifteen minutes of the receipt of a request as described in R32, the Reliability Coordinator complied with the request by either 1.) implementing the communicated congestion management actions requested by the issuing Reliability Coordinator, or 2.) implementing none or some of the communicated congestion management actions requested by the issuing Reliability Coordinator, and replacing the remainder with alternate congestion management actions if assessment showed that some or all of the congestion management actions communicated in R32 would have resulted in a reliability concern or would have been ineffective, the alternate congestion management actions were agreed to by the initiating Reliability Coordinator, and assessment showed that the alternate congestion management actions would not adversely affect reliability (R42).

## D. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority

Regional Entity.

#### 1.2. Compliance Monitoring and Enforcement Processes:

The following processes may be used:

- Compliance Audits
- Self-Certifications

- Spot Checking
- Compliance Violation Investigations
- Self-Reporting
- Complaints

### 1.3. Data Retention

The Reliability Coordinator shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The Reliability Coordinator shall maintain evidence to show compliance with R1 and, R2, ~~R3, and R4~~ for the past 12 months plus the current month.
- If a Reliability Coordinator is found non-compliant, it shall keep information related to the non-compliance until found compliant.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

### 1.4. Additional Compliance Information

None.

3. Violation Severity Levels

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1				When acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's T <sub>v</sub> , the Reliability Coordinator did not initiate one or more of the actions listed under R1 prior to or in conjunction with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated).
R2	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for one clock hour during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for two clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for three clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for four or more clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R3	The initiating Reliability Coordinator did not notify one or more Reliability Coordinators in the Eastern Interconnection of the TLR Level (3.1).	N/A	<p>The initiating Reliability Coordinator did not communicate the list of congestion management actions to one or more of the Reliability Coordinators listed in Requirement R3, Part 3.2.</p> <p>OR</p> <p>The initiating Reliability Coordinator requested some, but not all, of the Reliability Coordinators identified in Requirement R3, Part 3.3 to implement the identified congestion management actions.</p>	The initiating Reliability Coordinator requested none of the Reliability Coordinators identified in Requirement R3, Part 3.3 to implement the identified congestion management actions.
R4				The responding Reliability Coordinator did not, within 15 minutes of receiving a request, either 1.) implement all the requested congestion management actions, or 2.) implement none or some of the requested congestion management actions and replace the remainder with alternate congestion

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
				<p>management actions, provided that: assessment showed that the actions replaced would have resulted in a reliability concern or would have been ineffective, the alternate congestion management actions were agreed to by the initiating Reliability Coordinator, and assessment determined that the alternate congestion management actions would not adversely affect reliability.</p>

**E. Variances**

None.

**F. Associated Documents**

Implementation Guideline for Reliability Coordinators:  
Eastern Interconnection TLR Levels Reference Document

**G. Revision History**

Version	Date	Action	Tracking
1		Creation of new standard, incorporating concepts from IRO-006-4 Attachment; elimination of Regional Differences, as the standard allows the use of Market Flow	New
1	April 21, 2011	FERC Order issued approving IRO-006-EAST-1 (approval effective June 27, 2011)	

## A. Introduction

1. **Title:** Reliability Coordinator Actions to Operate Within IROLs
2. **Number:** IRO-009-24
3. **Purpose:** To prevent instability, uncontrolled separation, or cascading outages that adversely impacts the reliability of the Bulk Electric System by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).
4. **Applicability:**
  - 4.1. Reliability Coordinator.
5. **Proposed Effective Date:**

~~In those jurisdictions where no regulatory approval is required, the standard shall become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after BOT adoption.~~

~~In those jurisdictions where regulatory approval is required, the standard shall become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after applicable regulatory approval.~~

## B. Requirements

- R1.** For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding); ~~that can be implemented in time to prevent exceeding those IROLs.~~ (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning or Same Day Operations*)
  - R1.1.** ~~That can be implemented in time to prevent exceeding each of the identified those IROLs.~~
  - ~~R1.1-R1.2.~~

~~For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) to mitigate the magnitude and duration of exceeding each of the identified that IROLs such that each the IROL is relieved within the IROL's T<sub>v</sub>. (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning or Same Day Operations*)~~
- R2.** When an assessment of actual or expected system conditions predicts that an IROL in its Reliability Coordinator Area will be exceeded, the Reliability Coordinator shall implement one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) to prevent exceeding that IROL. (*Violation Risk Factor: High*) (*Time Horizon: Real-time Operations*)
- R3.** When actual system conditions show that there is ~~an instance of exceeding~~ an IROL exceedance in its Reliability Coordinator Area, the Reliability Coordinator shall;



~~without delay~~, act or direct others to act to mitigate the magnitude and duration of the instance of exceeding that IROL within the IROL's  $T_v$ . (*Violation Risk Factor: High*) (*Time Horizon: Real-time Operations*)

- R4. If unanimity cannot be reached on the value for an IROL or its  $T_v$ , each Reliability Coordinator that monitors that Facility (or group of Facilities) shall, ~~without delay~~, use the most ~~limitingconservative~~ of the values (~~the value with the least impact on reliability~~) under consideration. (*Violation Risk Factor: High*) (*Time Horizon: Real-time Operations*)

### C. Measures

M1. Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it has Operating Processes, Procedures, or Plans to address both preventing and mitigating instances of exceeding IROLs in accordance with Requirement R1 ~~and Requirement R2~~. This evidence shall include a list of any IROLs (and each associated  $T_v$ ) identified in advance, along with one or more dated Operating Processes, Procedures, or Plans that that will be used. (R1)

M1.M2. Each Reliability Coordinator shall have, and make available upon request, evidence to demonstrate that it implemented one or more Operating Processes, Procedures or Plans to prevent exceeding an IROL when an assessment of actual or expected system conditions predicted that that an IROL in its Reliability Coordinator area would be exceeded. (R2)

M2.M3. Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3 ~~and Requirement R4~~. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

M3.M4. For a situation where Reliability Coordinators disagree on the value of an IROL or its  $T_v$  the Reliability Coordinator shall have, and make available upon request, evidence to confirm that it used the most ~~limitingconservative~~ of the values under consideration, ~~without delay~~. Such evidence could include, but is not limited to, dated computer printouts, dated operator logs, dated voice recordings, dated transcripts of voice recordings, or other equivalent evidence. (R45)

### D. Compliance

#### 1. Compliance Monitoring Process

##### 1.1. Compliance Enforcement Authority

For Reliability Coordinators that work for the Regional Entity, the ERO shall serve as the Compliance Enforcement Authority.

For Reliability Coordinators that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.

##### 1.2. Compliance Monitoring Period and Reset Time Frame

Not applicable.

### 1.3. Compliance Monitoring and Enforcement Processes

- Compliance Audits
- Self-Certifications
- Spot Checking
- Compliance Violation Investigations
- Self-Reporting
- Complaints
- Exception Reporting

### 1.4. Data Retention

The Reliability Coordinator, shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

The Reliability Coordinator shall retain evidence of Requirements R1, Requirement R2, R3 and R4 and Measures M1, M2, M3 and M4 for a rolling 12 months.

~~The Reliability Coordinator shall retain evidence of Requirement R3, Requirement R4, Requirement R5, Measure M2, and Measure M3 for a rolling 12 months.~~

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and all IROL Violation Reports submitted since the last audit.

### 1.5. Additional Compliance Information

**Exception Reporting:** For each instance of exceeding an IROL for time greater than IROL  $T_v$ , the Reliability Coordinator shall submit an IROL Violation Report to its Compliance Enforcement Authority within 30 days of the initiation of the event.

2. Violation Severity Levels

Requirement	Lower	Moderate	High	Severe
<b>R1</b>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL. (R1, Part 1.1)</p> <p><u>OR</u></p> <p><u>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s T<sub>v</sub>. (R1, Part 1.2)</u></p>
<del><b>R2</b></del>				<p><del>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s T<sub>v</sub>.</del></p>

Standard IRO-009-~~21~~ — Reliability Coordinator Actions to Operate Within IROLs

Requirement	Lower	Moderate	High	Severe
				<del>(R2)</del>
<del>R23</del>				An assessment of actual or expected system conditions predicted that an IROL in the Reliability Coordinator’s Area would be exceeded, but no Operating Processes, Procedures, or Plans were implemented. (R3)
<del>R34</del>			<del>Actual system conditions showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and there was a delay of five minutes or more before acting or directing others to act to mitigate the magnitude and duration of the instance of exceeding that IROL, however the IROL was mitigated within the IROL T<sub>v</sub>.</del> <del>(R4)Not Applicable</del>	Actual system conditions showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and that IROL was not resolved within the IROL’s T <sub>v</sub> . (R <del>34</del> )
<del>R45</del>	Not applicable.	Not applicable.	Not applicable.	There was a disagreement on the value of the IROL or its T <sub>v</sub> and the most conservative limit under consideration was not used. (R <del>45</del> )

**E. Regional Variances**

None

**F. Associated Documents**

IROL Violation Report

**Version History**

<b>Version</b>	<b>Date</b>	<b>Action</b>	<b>Change Tracking</b>
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving IRO-009-1 (approval effective 5/23/11)	
<u>2</u>	<u>TBD</u>		

# Five-Year Review Template

Updated February 26, 2012

## Introduction

NERC has an obligation to conduct a five-year review of each Reliability Standard developed through NERC's American National Standards Institute-accredited Reliability Standards development process.<sup>1</sup> The Reliability Standard identified below is due for a five-year review. Your review team should use the background information and the questions below, along with any associated worksheets or reference documents, to guide a comprehensive review that results in a recommendation that the Reliability Standard should be (1) affirmed as is (i.e., no changes needed); (2) revised (which may include revising or retiring one or more requirements); or (3) withdrawn. If the team recommends a revision to the Reliability Standard, it should also submit a draft Standard Authorization Request (SAR) outlining the proposed scope and technical justification for the revision.

A completed five-year review template and any associated documentation should be submitted by email to Laura Hussey, Director of Standards Development at [laura.hussey@nerc.net](mailto:laura.hussey@nerc.net).

### Applicable Reliability Standard: IRO-006-East – 1 Transmission Loading relief Procedure for the Eastern Interconnection

#### Team Members (include name, organization, phone number, and email address):

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**Date Review Completed: July 17, 2013**

<sup>1</sup> NERC Standard Processes Manual, posted at [http://www.nerc.com/files/Appendix\\_3A\\_Standard\\_Processes\\_Manual\\_20110825.pdf](http://www.nerc.com/files/Appendix_3A_Standard_Processes_Manual_20110825.pdf), at page 41.

**Background Information (to be completed by NERC staff)**

1. Are there any outstanding Federal Energy Regulatory Commission directives associated with the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations to associated FERC orders for inclusion in a SAR.)

Yes

No

2. Have stakeholders requested clarity on the Reliability Standard in the form of an Interpretation (outstanding, in progress, or approved), Compliance Application Notice (CAN) (outstanding, in progress, or approved), or an outstanding submission to NERC's Issues Database? (If there are, NERC staff will include a list of the Interpretation(s), CAN(s), or stakeholder-identified issue(s) contained in the NERC Issues Database that apply to the Reliability Standard.)

Yes

No

3. Is the Reliability Standard one of the most violated Reliability Standards? If so, does the root cause of the frequent violation appear to be a lack of clarity in the language?

Yes

No

Please explain:

4. Does the Reliability Standard need to be converted to the results-based standard format as outlined in *Attachment 1: Results-Based Standards*? (Note that the intent of this question is to ensure that, as Reliability Standards are reviewed, the formatting is changed to be consistent with the current format of a Reliability Standard. If the answer is yes, the formatting should be updated when the Reliability Standard is revised.)

Yes

No

### Questions for SME Review Team

If NERC staff answered “Yes” to any of the questions above, the Reliability Standard probably requires revision. The questions below are intended to further guide your review. Some of the questions reference documents provided by NERC staff as indicated in the Background questions above.

1. **Paragraph 81:** Does one or more of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? Use *Attachment 2: Paragraph 81 Criteria* to make this determination.

Yes

No

Please summarize your application of Paragraph 81 Criteria, if any:

#### Requirement R1:

- Requirement R1 meets with Criterion B7 of Paragraph 81; Requirement R1 is redundant with IRO-008-1, Requirement R3; IRO-009-1, Requirement R4, and is addressed within NAESB business practice and should be retired.

#### Requirement R3:

- Requirement R3 contains actions that are automatically generated via the IDC tool and sent to proper entities upon issuance of the TLR. This should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.

2. **Clarity:** If the Reliability Standard has an Interpretation, CAN, or issue associated with it, or is frequently violated because of ambiguity, it probably needs to be revised for clarity. Beyond these indicators, is there any reason to believe that the Reliability Standard should be modified to address a lack of clarity? Consider:

a. Is this a Version 0 Reliability Standard?

b. Does the Reliability Standard have obviously ambiguous language or language that requires performance that is not measurable?

c. Are the requirements consistent with the purpose of the Reliability Standard?

Yes

No

Please summarize your assessment:

#### Requirement R2:

- The purpose in Requirement R2 is not “to ensure ...” it is for congestion management



- Simplify the language – the Reliability Coordinator (RC) must re-issue TLRs (except TLR-1) every hour

**Requirement R4:**

- IRO FYRT recommends ~~deleting the first three bullet points in Requirement R4, references in these bullet points are not necessarily performed for each and every TLR, that the standard drafting team to review the bullets to determine whether or not they remain in the standard.~~
- Errata to the fourth bullet point – “shows” should be deleted
- If Requirements R3, R3.1, R3.2 and R3.3 are successful for Paragraph 81 retirement, references to Requirement R3, Part R3.3 need to be removed

Also recommend that the standard drafting team incorporate a reference in the standard to the criteria, which are found in the NAESB Business Practices, used in determining the specific curtailments to be made when a TLR is issued.

3. **Definitions:** Do any of the defined terms used within the Reliability Standard need to be refined?

Yes

No

Please explain:

4. **Compliance Elements:** Are the compliance elements associated with the requirements (Measures, Data Retention, VRFs, and VSLs) consistent with the direction of the Reliability Assurance Initiative and FERC and NERC guidelines? If you answered “No,” please identify which elements require revision, and why:

Yes

No

5. **Consistency with Other Reliability Standards:** Does the Reliability Standard need to be revised for formatting and language consistency among requirements within the Reliability Standard or consistency with other Reliability Standards? If you answered “Yes,” please describe the changes needed to achieve formatting and language consistency:

Yes

No

6. **Changes in Technology, System Conditions, or other Factors:** Does the Reliability Standard need to be revised to account for changes in technology, system conditions, or other factors? If you answered “Yes,” please describe the changes and specifically what the potential impact is to reliability if the Reliability Standard is not revised:

Yes

No

7. **Consideration of Generator Interconnection Facilities:** Is responsibility for generator interconnection Facilities appropriately accounted for in the Reliability Standard?

Yes

No

*Guiding Questions:*

If the Reliability Standard is applicable to GOs/GOPs, is there any ambiguity about the inclusion of generator interconnection Facilities? (If generation interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)

If the Reliability Standard is not applicable to GOs/GOPs, is there a reliability-related need for treating generator interconnection Facilities as transmission lines for the purposes of this Reliability Standard? (If so, GOs and GOPs that own or operate relevant generator interconnection Facilities should be explicit in the applicability section of the Reliability Standard.)

**Recommendation**

The answers to the questions above, along with a preliminary recommendation of the SMEs conducting the review of the Reliability Standard, will be posted for a 45-day informal comment period, and the comments publicly posted. The SMEs will review the comments to evaluate whether to modify their initial recommendation, and will document the final recommendation which will be presented to the Standards Committee.

**Preliminary Recommendation (to be completed by the SME team after its review and prior to posting the results of the review for industry comment):**

- AFFIRM
- REVISE – Requirements R2 and R4
- RETIRE - Requirements R1 and R3

Technical Justification *(If the SME team recommends that the Reliability Standard be revised, a draft SAR may be included and the technical justification included in the SAR):*

**Preliminary Recommendation posted for industry comment (date):** August 7 through September 20, 2013

**Final Recommendation (to be completed by the SME team after it has reviewed industry comments on the preliminary recommendation):**

- AFFIRM *(This should only be checked if there are no outstanding directives, interpretations or issues identified by stakeholders.)*
- REVISE per recommendations above and redline standard
- RETIRE

Technical Justification *(If the SME team recommends that the Reliability Standard be revised, a draft SAR may be included and the technical justification included in the SAR):*

**Date submitted to NERC Staff:** October 1, 2013

## Attachment 1: Results-Based Standards

The fourth question for NERC staff asks if the Reliability Standard needs to be converted to the results-based standards (RBS) format. The information below will be used by NERC staff in making this determination, and is included here as a reference for the SME team and other stakeholders.

RBS standards employ a defense-in-depth strategy for Reliability Standards development where each requirement has a role in preventing system failures and the roles are complementary and reinforcing. Reliability Standards should be viewed as a portfolio of requirements designed to achieve an overall defense-in-depth strategy and comply with the quality objectives identified in the resource document titled, "[Acceptance Criteria of a Reliability Standard](#)."

A Reliability Standard that adheres to the RBS format should strive to achieve a portfolio of performance-, risk-, and competency-based mandatory reliability requirements that support an effective defense-in-depth strategy. Each requirement should identify a clear and measurable expected outcome, such as: a) a stated level of reliability performance, b) a reduction in a specified reliability risk, or c) a necessary competency.

- a. **Performance-Based**—defines a particular reliability objective or outcome to be achieved. In its simplest form, a results-based requirement has four components: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome?
- b. **Risk-Based**—preventive requirements to reduce the risks of failure to acceptable tolerance levels. A risk-based reliability requirement should be framed as: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome that reduces a stated risk to the reliability of the bulk power system?
- c. **Competency-Based**—defines a minimum set of capabilities an entity needs to have to demonstrate it is able to perform its designated reliability functions. A competency-based reliability requirement should be framed as: who, under what conditions (if any), shall have what capability, to achieve what particular result or outcome to perform an action to achieve a result or outcome or to reduce a risk to the reliability of the bulk power system?

Additionally, each RBS-adherent Reliability Standard should enable or support one or more of the eight reliability principles listed below. Each Reliability Standard should also be consistent with all of the reliability principles.

1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.
6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.
8. Bulk power systems shall be protected from malicious physical or cyber attacks.

If the Reliability Standard does not provide for a portfolio of performance-, risk-, and competency-based requirements or consistency with NERC's reliability principles, NERC staff should recommend that the Reliability Standard be reformatted in accordance with RBS format.

## Attachment 2: Paragraph 81 Criteria

The first question for the SME Review Team asks if one or more of the requirements in the Reliability Standard meet(s) criteria for retirement or modification based on Paragraph 81 concepts.<sup>2</sup> Use the Paragraph 81 criteria explained below to make this determination. Document the justification for the decisions throughout and provide them in the final assessment in the Five-Year Review worksheet.

For a Reliability Standard requirement to be proposed for retirement or modification based on Paragraph 81 concepts, it must satisfy **both**: (i) Criterion A (the overarching criterion) and (ii) at least one of the Criteria B listed below (identifying criteria). In addition, for each Reliability Standard requirement proposed for retirement or modification, the data and reference points set forth below in Criteria C should be considered for making a more informed decision.

### *Criterion A (Overarching Criterion)*

The Reliability Standard requirement requires responsible entities (“entities”) to conduct an activity or task that does little, if anything, to benefit or protect the reliable operation of the BES.

Section 215(a) (4) of the United States Federal Power Act defines “reliable operation” as: “... operating the elements of the bulk-power system within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements.”

### *Criteria B (Identifying Criteria)*

#### **B1. Administrative**

The Reliability Standard requirement requires responsible entities to perform a function that is administrative in nature, does not support reliability and is needlessly burdensome.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability and whose retirement or modification will result in an increase in the efficiency of the ERO compliance program. Administrative functions may include a task that is related to developing procedures or plans, such as establishing communication contacts. Thus, for certain requirements, Criterion B1 is closely related to Criteria B2, B3 and B4. Strictly administrative functions do not inherently negatively impact reliability directly and, where possible, should be eliminated or modified for purposes of efficiency and to allow the ERO and entities to appropriately allocate resources.

---

<sup>2</sup> In most cases, satisfaction of the Paragraph 81 criteria will result in the retirement of a requirement. In some cases, however, there may be a way to modify a requirement so that it no longer satisfies Paragraph 81 criteria. Recognizing that, this document refers to both options.

**B2. Data Collection/Data Retention**

These are requirements that obligate responsible entities to produce and retain data which document prior events or activities, and should be collected via some other method under NERC's rules and processes.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability. The collection and/or retention of data do not necessarily have a reliability benefit and yet are often required to demonstrate compliance. Where data collection and/or data retention is unnecessary for reliability purposes, such requirements should be retired or modified in order to increase the efficiency of the ERO compliance program.

**B3. Documentation**

The Reliability Standard requirement requires responsible entities to develop a document (*e.g.*, plan, policy or procedure) which is not necessary to protect BES reliability.

This criterion is designed to identify requirements that require the development of a document that is unrelated to reliability or has no performance or results-based function. In other words, the document is required, but no execution of a reliability activity or task is associated with or required by the document.

**B4. Reporting**

The Reliability Standard requirement obligates responsible entities to report to a Regional Entity, NERC or another party or entity. These are requirements that obligate responsible entities to report to a Regional Entity on activities which have no discernible impact on promoting the reliable operation of the BES and if the entity failed to meet this requirement there would be little reliability impact.

**B5. Periodic Updates**

The Reliability Standard requirement requires responsible entities to periodically update (*e.g.*, annually) documentation, such as a plan, procedure or policy without an operational benefit to reliability.

This criterion is designed to identify requirements that impose an updating requirement that is out of sync with the actual operations of the BES, unnecessary, or duplicative.

**B6. Commercial or Business Practice**

The Reliability Standard requirement is a commercial or business practice, or implicates commercial rather than reliability issues.

This criterion is designed to identify those requirements that require: (i) implementing a best or outdated business practice or (ii) implicating the exchange of or debate on commercially sensitive information while doing little, if anything, to promote the reliable operation of the BES.

### **B7. Redundant**

The Reliability Standard requirement is redundant with: (i) another FERC-approved Reliability Standard requirement(s); (ii) the ERO compliance and monitoring program; or (iii) a governmental regulation (e.g., Open Access Transmission Tariff, North American Energy Standards Board (“NAESB”), etc.).

This criterion is designed to identify requirements that are redundant with other requirements and are, therefore, unnecessary. Unlike the other criteria listed in Criterion B, in the case of redundancy, the task or activity itself may contribute to a reliable BES, but it is not necessary to have two duplicative requirements on the same or similar task or activity. Such requirements can be retired or modified with little or no effect on reliability and removal will result in an increase in efficiency of the ERO compliance program.

### *Criteria C (Additional data and reference points)*

Use the following data and reference points to assist in the determination of (and justification for) whether to proceed with retirement or modification of a Reliability Standard requirement that satisfies both Criteria A and B:

#### **C1. Was the Reliability Standard requirement part of a FFT filing?**

The application of this criterion involves determining whether the requirement was included in a FFT filing.

#### **C2. Is the Reliability Standard requirement being reviewed in an ongoing Standards Development Project?**

The application of this criterion involves determining whether the requirement proposed for retirement or modification is part of an active Standards Development Project, with consideration for the status of the project. If the requirement has been approved by Registered Ballot Body and is scheduled to be presented to the NERC Board of Trustees, in most cases it will not need to be addressed in the five-year review. The exception would be a requirement, such as the Critical Information Protection (“CIP”) requirements for Version 3 and 4, that is not due to be retired for an extended period of time. Also, for informational purposes, whether the requirement is included in a future or pending Standards Development Project should be identified and discussed.

#### **C3. What is the VRF of the Reliability Standard requirement?**

The application of this criterion involves identifying the VRF of the requirement proposed for retirement or modification, with particular consideration of any requirement that has been assigned as having a Medium or High VRF. Also, the fact that a requirement has a Lower VRF is not dispositive that



it qualifies for retirement or modification. In this regard, Criterion C3 is considered in light of Criterion C5 (Reliability Principles) and C6 (Defense in Depth) to ensure that no reliability gap would be created by the retirement or modification of the Lower VRF requirement. For example, no requirement, including a Lower VRF requirement, should be retired or modified if doing so would harm the effectiveness of a larger scheme of requirements that are purposely designed to protect the reliable operation of the BES.

**C4. In which tier of the most recent Actively Monitored List (AML) does the Reliability Standard requirement fall?**

The application of this criterion involves identifying whether the requirement proposed for retirement or modification is on the most recent AML, with particular consideration for any requirement in the first tier of the AML.

**C5. Is there a possible negative impact on NERC's published and posted reliability principles?**

The application of this criterion involves consideration of the eight following reliability principles published on the NERC webpage.

**Reliability Principles**

NERC Reliability Standards are based on certain reliability principles that define the foundation of reliability for North American bulk power systems. Each reliability standard shall enable or support one or more of the reliability principles, thereby ensuring that each standard serves a purpose in support of reliability of the North American bulk power systems. Each reliability standard shall also be consistent with all of the reliability principles, thereby ensuring that no standard undermines reliability through an unintended consequence.

Principle 1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

Principle 2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.

Principle 3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.

Principle 4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.

Principle 5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.

Principle 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Principle 7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.

Principle 8. Bulk power systems shall be protected from malicious physical or cyber attacks. (footnote omitted).

**C6. Is there any negative impact on the defense in depth protection of the BES?**

The application of this criterion considers whether the requirement proposed for retirement or modification is part of a defense in depth protection strategy. In other words, the assessment is to verify whether other requirements rely on the requirement proposed for retirement or modification to protect the BES.

**C7. Does the retirement or modification promote results or performance based Reliability Standards?**

The application of this criterion considers whether the requirement, if retired or modified, will promote the initiative to implement results- and/or performance-based Reliability Standards.

# Five-Year Review Template

Updated February 26, 2012

## Introduction

NERC has an obligation to conduct a five-year review of each Reliability Standard developed through NERC's American National Standards Institute-accredited Reliability Standards development process.<sup>1</sup> The Reliability Standard identified below is due for a five-year review. Your review team should use the background information and the questions below, along with any associated worksheets or reference documents, to guide a comprehensive review that results in a recommendation that the Reliability Standard should be (1) affirmed as is (i.e., no changes needed); (2) revised (which may include revising or retiring one or more requirements); or (3) withdrawn. If the team recommends a revision to the Reliability Standard, it should also submit a draft Standard Authorization Request (SAR) outlining the proposed scope and technical justification for the revision.

A completed five-year review template and any associated documentation should be submitted by email to Laura Hussey, Director of Standards Development at [laura.hussey@nerc.net](mailto:laura.hussey@nerc.net).

### Applicable Reliability Standard: IRO-009-1 Reliability Coordinator Actions to Operate within IROLs

#### Team Members (include name, organization, phone number, and email address):

1. Chair - Robert C. Rhodes, Jr., Southwest Power Pool, (501) 614-3241, [rrhodes@spp.org](mailto:rrhodes@spp.org)
2. Vice Chair – David Souder, PJM Interconnection, LLC, (610) 666-4795, [souder@pjm.com](mailto:souder@pjm.com)
3. Anthony Jankowski, We Energies, (262) 544-7117, [tony.jankowski@we-energies.com](mailto:tony.jankowski@we-energies.com)
4. John Mulhern, Con Edison, (212) 580-6791, [mulhernj@coned.com](mailto:mulhernj@coned.com)
5. Ed Rudder, TVA, (423) 697-4057, [berudder@tva.gov](mailto:berudder@tva.gov)
6. Kevin Sherd, Midcontinent ISO, Inc., (317) 249-5765, [KSherd@misoenergy.org](mailto:KSherd@misoenergy.org)
7. (Milton) Dave Thomas, WECC, (970) 776-5809, [dthomas@wecc.biz](mailto:dthomas@wecc.biz)
8. Scott Watts, Duke Energy Carolinas, (704) 382-2260, [Scott.Watts@duke-energy.com](mailto:Scott.Watts@duke-energy.com)

**Date Review Completed: July 17, 2013**

<sup>1</sup> NERC Standard Processes Manual, posted at [http://www.nerc.com/files/Appendix\\_3A\\_Standard\\_Processes\\_Manual\\_20110825.pdf](http://www.nerc.com/files/Appendix_3A_Standard_Processes_Manual_20110825.pdf), at page 41.

**Background Information (to be completed by NERC staff)**

1. Are there any outstanding Federal Energy Regulatory Commission directives associated with the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations to associated FERC orders for inclusion in a SAR.)

Yes

No

2. Have stakeholders requested clarity on the Reliability Standard in the form of an Interpretation (outstanding, in progress, or approved), Compliance Application Notice (CAN) (outstanding, in progress, or approved), or an outstanding submission to NERC's Issues Database? (If there are, NERC staff will include a list of the Interpretation(s), CAN(s), or stakeholder-identified issue(s) contained in the NERC Issues Database that apply to the Reliability Standard.)

Yes

No

3. Is the Reliability Standard one of the most violated Reliability Standards? If so, does the root cause of the frequent violation appear to be a lack of clarity in the language?

Yes

No

Please explain:

4. Does the Reliability Standard need to be converted to the results-based standard format as outlined in *Attachment 1: Results-Based Standards*? (Note that the intent of this question is to ensure that, as Reliability Standards are reviewed, the formatting is changed to be consistent with the current format of a Reliability Standard. If the answer is yes, the formatting should be updated when the Reliability Standard is revised.)

Yes

No

**Questions for SME Review Team**

If NERC staff answered “Yes” to any of the questions above, the Reliability Standard probably requires revision. The questions below are intended to further guide your review. Some of the questions reference documents provided by NERC staff as indicated in the Background questions above.

1. **Paragraph 81:** Does one or more of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? Use *Attachment 2: Paragraph 81 Criteria* to make this determination.

Yes

No

Please summarize your application of Paragraph 81 Criteria, if any:

2. **Clarity:** If the Reliability Standard has an Interpretation, CAN, or issue associated with it, or is frequently violated because of ambiguity, it probably needs to be revised for clarity. Beyond these indicators, is there any reason to believe that the Reliability Standard should be modified to address a lack of clarity? Consider:

- a. Is this a Version 0 Reliability Standard?
- b. Does the Reliability Standard have obviously ambiguous language or language that requires performance that is not measurable?
- c. Are the requirements consistent with the purpose of the Reliability Standard?

Yes

No

Please summarize your assessment:

**Requirement R1:**

- Revise as shown below, combining Requirements R1 and R2 to remove duplicative language and to provide additional clarity. Existing Measure M1 addresses both requirements.

**R1.** For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding): (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning or Same Day Operations*)

1.1 that can be implemented in time to prevent exceeding each of the identified~~those~~ IROLs.

1.2 to mitigate the magnitude and duration of exceeding ~~each of the identified~~ IROLs such that ~~each~~ IROL is relieved within the IROL's Tv.

**Requirement R4:**

- The term "without delay" is ambiguous and should be removed, Tv is the measurable indicator

**Requirement R5:**

- Remove the parenthetical "(the value with the least impact on reliability)."
- The term "without delay" is ambiguous and should be removed, Tv is the measurable indicator
- The term "conservative" is ambiguous and should be changed to "limiting" for clarity

[The Purpose Statement should be revised to replace the word "interconnection" with "Bulk Electric System" to be consistent with IRO-008-2.](#)

3. **Definitions:** Do any of the defined terms used within the Reliability Standard need to be refined?

Yes

No

Please explain:

**Purpose Statement:**

- ~~The term "interconnection" needs to be capitalized "Interconnection" for consistency with the NERC Glossary of Terms~~
- The term "cascading" needs to be capitalized "Cascading" for consistency with the NERC Glossary of Terms

4. **Compliance Elements:** Are the compliance elements associated with the requirements (Measures, Data Retention, VRFs, and VSLs) consistent with the direction of the Reliability Assurance Initiative and FERC and NERC guidelines? If you answered "No," please identify which elements require revision, and why:

Yes

No

**Requirement R4:** The High VSL sets a requirement for action within five minutes, although no such requirement is stated within Requirement R4. Requirement R4 requires action "...to mitigate the magnitude and duration of the instance of exceeding that IROL within the IROL's Tv."

5. **Consistency with Other Reliability Standards:** Does the Reliability Standard need to be revised for formatting and language consistency among requirements within the Reliability Standard or

consistency with other Reliability Standards? If you answered “Yes,” please describe the changes needed to achieve formatting and language consistency:

Yes

No

6. **Changes in Technology, System Conditions, or other Factors:** Does the Reliability Standard need to be revised to account for changes in technology, system conditions, or other factors? If you answered “Yes,” please describe the changes and specifically what the potential impact is to reliability if the Reliability Standard is not revised:

Yes

No

7. **Consideration of Generator Interconnection Facilities:** Is responsibility for generator interconnection Facilities appropriately accounted for in the Reliability Standard?

Yes

No

*Guiding Questions:*

If the Reliability Standard is applicable to GOs/GOPs, is there any ambiguity about the inclusion of generator interconnection Facilities? (If generation interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)

If the Reliability Standard is not applicable to GOs/GOPs, is there a reliability-related need for treating generator interconnection Facilities as transmission lines for the purposes of this Reliability Standard? (If so, GOs and GOPs that own or operate relevant generator interconnection Facilities should be explicit in the applicability section of the Reliability Standard.)

**Recommendation**

The answers to the questions above, along with a preliminary recommendation of the SMEs conducting the review of the Reliability Standard, will be posted for a 45-day informal comment period, and the comments publicly posted. The SMEs will review the comments to evaluate whether to modify their initial recommendation, and will document the final recommendation which will be presented to the Standards Committee.

**Preliminary Recommendation (to be completed by the SME team after its review and prior to posting the results of the review for industry comment):**

- AFFIRM  
 REVISE  
 RETIRE

Technical Justification *(If the SME team recommends that the Reliability Standard be revised, a draft SAR may be included and the technical justification included in the SAR):*

**Preliminary Recommendation posted for industry comment (date):** [August 7, 2013 through September 20, 2013](#)\_\_\_\_\_

**Final Recommendation (to be completed by the SME team after it has reviewed industry comments on the preliminary recommendation):**

- AFFIRM *(This should only be checked if there are no outstanding directives, interpretations or issues identified by stakeholders.)*  
 REVISE [Per recommendations above and redline standard.](#)  
 RETIRE

Technical Justification *(If the SME team recommends that the Reliability Standard be revised, a draft SAR may be included and the technical justification included in the SAR):*

**Date submitted to NERC Staff:** \_\_\_\_\_[October 1, 2013](#)



## Attachment 1: Results-Based Standards

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These are requirements that obligate responsible entities to produce and retain data which document prior events or activities, and should be collected via some other method under NERC's rules and processes.

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The Reliability Standard requirement requires responsible entities to periodically update (*e.g.*, annually) documentation, such as a plan, procedure or policy without an operational benefit to reliability.

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The Reliability Standard requirement is a commercial or business practice, or implicates commercial rather than reliability issues.

This criterion is designed to identify those requirements that require: (i) implementing a best or outdated business practice or (ii) implicating the exchange of or debate on commercially sensitive information while doing little, if anything, to promote the reliable operation of the BES.

### **B7. Redundant**

The Reliability Standard requirement is redundant with: (i) another FERC-approved Reliability Standard requirement(s); (ii) the ERO compliance and monitoring program; or (iii) a governmental regulation (e.g., Open Access Transmission Tariff, North American Energy Standards Board (“NAESB”), etc.).

This criterion is designed to identify requirements that are redundant with other requirements and are, therefore, unnecessary. Unlike the other criteria listed in Criterion B, in the case of redundancy, the task or activity itself may contribute to a reliable BES, but it is not necessary to have two duplicative requirements on the same or similar task or activity. Such requirements can be retired or modified with little or no effect on reliability and removal will result in an increase in efficiency of the ERO compliance program.

### *Criteria C (Additional data and reference points)*

Use the following data and reference points to assist in the determination of (and justification for) whether to proceed with retirement or modification of a Reliability Standard requirement that satisfies both Criteria A and B:

#### **C1. Was the Reliability Standard requirement part of a FFT filing?**

The application of this criterion involves determining whether the requirement was included in a FFT filing.

#### **C2. Is the Reliability Standard requirement being reviewed in an ongoing Standards Development Project?**

The application of this criterion involves determining whether the requirement proposed for retirement or modification is part of an active Standards Development Project, with consideration for the status of the project. If the requirement has been approved by Registered Ballot Body and is scheduled to be presented to the NERC Board of Trustees, in most cases it will not need to be addressed in the five-year review. The exception would be a requirement, such as the Critical Information Protection (“CIP”) requirements for Version 3 and 4, that is not due to be retired for an extended period of time. Also, for informational purposes, whether the requirement is included in a future or pending Standards Development Project should be identified and discussed.

#### **C3. What is the VRF of the Reliability Standard requirement?**

The application of this criterion involves identifying the VRF of the requirement proposed for retirement or modification, with particular consideration of any requirement that has been assigned as having a Medium or High VRF. Also, the fact that a requirement has a Lower VRF is not dispositive that

it qualifies for retirement or modification. In this regard, Criterion C3 is considered in light of Criterion C5 (Reliability Principles) and C6 (Defense in Depth) to ensure that no reliability gap would be created by the retirement or modification of the Lower VRF requirement. For example, no requirement, including a Lower VRF requirement, should be retired or modified if doing so would harm the effectiveness of a larger scheme of requirements that are purposely designed to protect the reliable operation of the BES.

**C4. In which tier of the most recent Actively Monitored List (AML) does the Reliability Standard requirement fall?**

The application of this criterion involves identifying whether the requirement proposed for retirement or modification is on the most recent AML, with particular consideration for any requirement in the first tier of the AML.

**C5. Is there a possible negative impact on NERC's published and posted reliability principles?**

The application of this criterion involves consideration of the eight following reliability principles published on the NERC webpage.

**Reliability Principles**

NERC Reliability Standards are based on certain reliability principles that define the foundation of reliability for North American bulk power systems. Each reliability standard shall enable or support one or more of the reliability principles, thereby ensuring that each standard serves a purpose in support of reliability of the North American bulk power systems. Each reliability standard shall also be consistent with all of the reliability principles, thereby ensuring that no standard undermines reliability through an unintended consequence.

Principle 1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

Principle 2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.

Principle 3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.

Principle 4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.

Principle 5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.

Principle 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Principle 7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.

Principle 8. Bulk power systems shall be protected from malicious physical or cyber attacks. (footnote omitted).

**C6. Is there any negative impact on the defense in depth protection of the BES?**

The application of this criterion considers whether the requirement proposed for retirement or modification is part of a defense in depth protection strategy. In other words, the assessment is to verify whether other requirements rely on the requirement proposed for retirement or modification to protect the BES.

**C7. Does the retirement or modification promote results or performance based Reliability Standards?**

The application of this criterion considers whether the requirement, if retired or modified, will promote the initiative to implement results- and/or performance-based Reliability Standards.

## Standards Announcement

### 2015-06 Interconnection Reliability Operations and Coordination IRO-006-East and IRO-009

SAR Informal Comment Period Open through April 15, 2015

**[Commenting for this project is in the Standards Balloting & Commenting System \(SBS\)](#)**

#### **[Now Available](#)**

A 30-day informal comment period for the **Project 2015-06 Interconnection Reliability Operations and Coordination – IRO-006-East and IRO-009** Standard Authorization Request (SAR) is open through **8 p.m. Eastern, Wednesday, April 15, 2015.**

Background information for this project can be found on the [project page](#).

#### **[SBS Login, Registration, Validation and Permissions](#)**

To **comment** in the SBS, you must have a contributor, voter, or proxy role.

#### **Commenting**

Use the [electronic form](#) to submit comments on the SAR. If you experience any difficulties in using the electronic form, contact [Arielle Cunningham](#). An off-line, unofficial copy of the comment form is posted on the [project page](#).

For information on the **Standards Development Process**, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Standards Developer, [Katherine Street](#) (via email) or by phone at 404-446-9702.

North American Electric Reliability Corporation  
3353 Peachtree Rd, NE  
Suite 600, North Tower  
Atlanta, GA 30326  
404-446-2560 | [www.nerc.com](http://www.nerc.com)



# Survey Report

## Survey Details

**Name** 2015-06 IRO | IRO-006-East & IRO-009 SAR

**Description**

**Start Date** 3/16/2015

**End Date** 4/16/2015

**Associated Ballots**

## Survey Questions

***1. Do you agree with the recommendation regarding IRO-006-East? If not, please explain specifically what aspects of the recommendation you disagree with.***

**Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Dennis Minton - Florida Keys Electric Cooperative Assoc. - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Kaleb Brimhall - Colorado Springs Utilities - 5 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Nick Vtyurin - Manitoba Hydro - 1,3,5,6 - MRO**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:**

0

---

**Leonard Kula - Independent Electricity System Operator - 2 -**

**Selected Answer:**

No

**Answer Comment:**

**We reiterate the following comments which were submitted in 2013 when the 5-Year Review Team's recommendations were posted for comment:**

**We do not agree with retiring R1 since it was added to the standard and worded that way to address a FERC directive which asked NERC to clearly include a requirement in the standard that TLR is not an effective means for mitigating IROL violation. The language "...prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)" is meant to convey the idea that TLR alone cannot and shall not be used to mitigate IROL exceedances, but can be used together with but not prior to other (presumably more effective) means.**

**The proposal to retire R3 also needs to be reconsidered. The need for this requirement in view of IDC's automatic generation of the actions contained in R3 was debated at length when the standard was posted for commenting and balloting in 2009. In the end, the vast majority of the industry supported the notion that such actions would be required in the event that the IDC became unavailable. Also, there was the issue with respect to who would be held responsible for communicating these actions given that it was not appropriate for the vendor of IDC to take up this responsibility and ensure the correctness of the communicated actions. We suggest the 5-Year Review Team of the SDT to consult with NERC staff (the IRO-006-5 Standard Developer) and/or the TLR SDT for further details.**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer:

**Answer Comment:** Not Applicable for Texas RE.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

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**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Kathleen Black - DTE Energy - 3,4,5 - RFC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Michael Lowman - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

Error: Subreport could not be shown.

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

Error: Subreport could not be shown.

Selected Answer: Yes

**Answer Comment:**

The un-official comment form posted on the project page states that IRO-006-EAST R1 is to be revised under Criterion B7 of Paragraph 81 but the PRT Template form states that R1 is to be retired. We believe this to simply be an error in drafting the Comment form language and that the review template is the correct reference.

We thank the PRT for identifying the redundancy with other standards and requirements and their application of Paragraph 81 Criteria. We agree with the recommended changes developed by the PRT.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

Error: Subreport could not be shown.

**Selected Answer:** No

**Answer Comment:**

We do not agree with retiring R1 because it was added to the standard and worded to address a FERC directive. The directive asked NERC to clearly include a requirement in the standard that TLR is not an effective means for mitigating an IROL violation. The language "...prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)" is meant to convey the idea that TLR alone cannot and shall not be used to mitigate IROL exceedances, but can be used together with but not prior to other means. Disagree with the retirement of requirement R3 based on Paragraph 81 Criteria B1. Because the Purpose of IRO-006-East is "To provide an interconnection-wide transmission loading relief procedure (TLR) for the Eastern Interconnection that can be used to prevent and/or mitigate potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of



the Bulk Electric System (BES).” it is important that the RCs communicate this information to other RCs in the Eastern Interconnection. This is administrative in nature, but it does support reliability by providing an abnormal event response procedure to all entities that might be impacted. In past discussions, the vast majority of the industry supported the notion that such actions would be required in the event that the IDC became unavailable. Also, there was the issue with respect to who would be held responsible for communicating these actions given that it was not appropriate for the vendor of IDC to take responsibility and ensure the correctness of the communicated actions. We suggest the 5-Year Review Team of the SDT to consult with NERC staff (the IRO-006-5 Standard Developer) and/or the TLR SDT discuss and take this into consideration.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Ben Engelby - ACES Power Marketing - 6 -**

Error: Subreport could not be shown.

Selected Answer: Yes

**Answer Comment:**

(1) While we agree with the recommendations and proposed modifications to IRO-006-EAST-1 and that IRO-006-EAST-1 R1 is redundant with IRO-009-1 R4, we have two concerns. First, we do not agree that IRO-006-EAST-1 R1 is redundant with IRO-008-1 R3 as documented in the five-year review template. Since it is redundant with another requirement this is just documentation issue that the drafting will need to address. Second, we encourage the drafting to review the proposed retirement of IRO-006-EAST-1 with FERC. As we recall, this requirement was added per a FERC directive when IRO-006 was approved.

(2) We agree that R3 is administrative documentation that meets P81 criteria. However, we encourage the drafting team to retain this documentation in the technical or application guidelines. It is helpful for those that do not use the IDC every day to understand how it works.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Error: Subreport could not be shown.

**Selected Answer:** Yes

**Answer Comment:**

NOTE: IESO supports and joins these SRC comments generally, but does not support the retirement of Requirements R1 – R3. MISO and CAISO do not join these SRC comments.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

***2. Do you agree with the recommendation regarding IRO-009-1? If not, please explain specifically what aspects of the recommendation you disagree with.***

**Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Dennis Minton - Florida Keys Electric Cooperative Assoc. - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Kaleb Brimhall - Colorado Springs Utilities - 5 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Nick Vtyurin - Manitoba Hydro - 1,3,5,6 - MRO**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Leonard Kula - Independent Electricity System Operator - 2 -**

Selected Answer: Yes

**Answer Comment:**

**As indicated in our comments submitted during the posting of the 5-Year Review Team's recommendations in 2013, the proposal to remove "without delay" from R4 needs to be carefully considered. There was a lengthy debate on this during the posting and balloting of the previous version of this standard. The decision to leave this in the requirement was based primarily on concerns expressed by the regulatory authorities that, without such wording, Responsible Entities could delay taking actions until closer to the end of the Tv period. This would not drive the right behavior to mitigate IROL exceedances as soon as practicable. Please consult FERC staff and the NERC facilitator (Standard Developer) for the project and/or the Reliability Coordination SDT.**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Kathleen Black - DTE Energy - 3,4,5 - RFC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -**

Selected Answer:

**Answer Comment:**

Tacoma Power suggests that the Measures section be consistent. Measures M1 and M3 include language that refers to corresponding requirements. For example, Measure M1 includes "...in accordance with Requirement R1"; Measure M3 includes "...in accordance with Requirement R3". Measures M2 and M4, however, do not include references to their applicable requirements.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

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**Michael Lowman - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

Error: Subreport could not be shown.

Selected Answer: Yes

**Answer Comment:**

**Duke Energy suggests the following modification to R4:**



**“When mitigating the magnitude and duration of an IROL, and unanimity cannot be reached, each Reliability Coordinator that monitors that Facility (or group of Facilities) shall use the most limiting of the values under consideration.”**

**We believe this allows Requirement 4 to be a stand-alone requirement and would not have to refer to other requirements for interpretation.**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

Error: Subreport could not be shown.

**Selected Answer:** Yes

**Answer Comment:**

We agree the revisions in IRO-009-1 improve the clarity of the Standard overall and provide a valid correction to the VSL on R3 regarding the five-minute timeframe.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

Error: Subreport could not be shown.

Selected Answer: No

**Answer Comment:**

The posted IRO-009 redline is not an accurate reflection of the changes being considered in the standard. It does not show requirement R2 being revised to be Part 1.2, and it does not show requirement R5 being deleted. Standard format does not have Parts of requirements identified with "R"s.

It is not necessary to add Parts 1.1 and 1.2 (shown as R1.1 and R1.2). Requirement R1 wording can be revised to "...that can be implemented in time to prevent to prevent exceeding each of the identified IROL Tv."

In requirement R4, suggest revising the wording to "...immediately use the most limiting of the values under consideration to minimize the impact on reliability."

As indicated in comments submitted during the posting of the 5-Year Review Team's recommendations in 2013, the proposal to remove "without delay" from R4 needs to be carefully considered. There was a lengthy debate on this during the posting and balloting of the previous version of this standard. The decision to leave this in the requirement was based primarily on concerns

expressed by the regulatory authorities that, without such wording, Responsible Entities could delay taking actions until closer to the end of the Tv period. This would not drive the right behavior to mitigate IROL exceedances as soon as practicable.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Ben Engelby - ACES Power Marketing - 6 -**

Error: Subreport could not be shown.

Selected Answer: Yes

**Answer Comment:**

(1) R1 should be modified to use the approved format for NERC standards. Standards should use numbered lists or bullets in place of sub-requirements.

**Document Name:**

Likes: 0

Dislikes: 0

---

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Error: Subreport could not be shown.

Selected Answer: Yes

**Answer Comment:**

The SRC suggests that the recommendations are appropriate, but has concerns regarding the potential redlines provided. More specifically, the SRC suggests that:

- Different interpretations regarding “expected” versus “actual” system conditions have been observed throughout the time period for which IRO-009 has been effective. Consistent definitions between the “expected” versus “actual” system conditions would be valuable to the reliability of the BES and would help to ensure that the data gathered for metrics related to IROL exceedances remains effective, accurate, and indicative of the impact of IROL exceedances on the BES. The SDT should evaluate how these terms can be

clarified.

- Terms such as “use” introduce ambiguity and should be evaluated for a determination of whether a more defined, specific action is expected and/or can be articulated.
- The SDT should evaluate and revise the replaced requirement numbers as necessary to ensure accurate mapping between new and retired requirements. In particular, the SRC has identified two potential issues:
  - R1.2 is a replacement for the old Requirement R2 (not a replacement for the incorrectly referenced R 1.1 which did not exist).
  - The comment form states that Requirements R1, R4, and R5 are to be revised, but, in the redline, there is no Requirement R5.
- The SRC suggests that the phrase "each of the identified IROLs such that each IROL...", which was added to Requirement R2 is redundant and should be revised to state “the identified IROL such that it...” More specifically, because Requirement R1 starts with the phrase "For each IROL....," which phrase already limits the sub requirements to a single identified IROL.
- The SRC cannot support the proposal to remove “without delay” from R4. There was a lengthy debate on the use of this term previously and the decision to leave this in the requirement was based on concerns (particularly of the regulatory authorities) that, without such wording, Responsible Entities could delay taking actions until closer to the end of the Tv period. This would not drive the right behavior to mitigate IROL exceedances as soon as practicable.

NOTE: MISO and CAISO do not join these SRC comments.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**3. If you have any other comments on the Five-Year Review Recommendation that you have not already mentioned**

*above, please provide them here:*

**Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Dennis Minton - Florida Keys Electric Cooperative Assoc. - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Kaleb Brimhall - Colorado Springs Utilities - 5 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Nick Vtyurin - Manitoba Hydro - 1,3,5,6 - MRO**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Leonard Kula - Independent Electricity System Operator - 2 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer:

**Answer Comment:**

Texas RE noticed IRO-009-2 references an IROL Violation Report in EOP-004-1, which is retired. The form changed to an Event Reporting Form in EOP-004-2. Texas RE recommends the SDT change IRO-009-2 to reference the Event



Reporting Form in EOP-004-2.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Kathleen Black - DTE Energy - 3,4,5 - RFC**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Michael Lowman - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

Error: Subreport could not be shown.

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

Error: Subreport could not be shown.

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

Error: Subreport could not be shown.

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Ben Engelby - ACES Power Marketing - 6 -**

Error: Subreport could not be shown.

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Error: Subreport could not be shown.

Selected Answer:

**Answer Comment:**

Recommendations for consideration are: • Modify the requirements to improve its clarity and measurability while removing ambiguity.

NOTE: MISO and CAISO do not join these SRC comments.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

# Consideration of Comments

## Project 2015-06 Interconnection Reliability Operations and Coordination - IRO-006-East and IRO-009

The Project 2015-06 Drafting Team thanks all commenters who submitted comments on the standard. The standard was posted for a 30-day public comment period from March 16, 2015 through April 15, 2015. Stakeholders were asked to provide feedback on the standards and associated documents through a special electronic comment form.

All comments submitted may be reviewed in their original format on the standard's [project page](#).

This document contains the Project 2015-06 Interconnection Reliability Operations (IRO) standard drafting team's (SDT) response to all industry comments received during this comment period. The IRO SDT encourages commenters to review its responses to ensure all concerns have been addressed. The IRO SDT notes that while commenters agree with the IRO SDT's recommendations on the standards, specific concerns were expressed. Some comments supporting the IRO SDT's recommendations are discussed below but in most cases are not specifically addressed in this response. Also, several comments in response to specific questions are duplicated in other questions, and several commenters raise substantively the same concerns as others. Therefore, the IRO SDT's consideration of all comments is addressed in this section in summary form, with duplicate comments treated as a single issue.

If you feel that the substance of your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Senior Director of Standards, [Howard Gugel](#) (via email) or at (404) 446-2566.

### 1. Summary Consideration

Based on the results from the comment and ballot period, it appears that industry generally agrees with the Project 2012-09 IRO Five-Year Review Team (FYRT) recommendations on revisions to IRO-006-EAST-1 and IRO-009-1. However, there are some disagreements among stakeholders and suggestions for language revisions contained in industry comments. To the extent that there are comments beyond the scope of this SDT, those comments will be communicated as appropriate for consideration.

The IRO SDT has carefully reviewed and considered the FYRT recommendations, as well as each stakeholder comment, and has revised the standards where suggested changes improve clarity and are consistent with IRO SDT intent and apparent industry consensus. The IRO SDT has carefully considered standard language as well as explanatory language and has implemented revisions to the FYRT recommendations to further clarify the language based on comments received.

The IRO SDT's consideration of all comments follows.

## 2. IRO-006-EAST

Several commenters suggested retaining Requirement R1 since it was developed to address a directive.

FERC Order 693, paragraph 964 states:

964. Accordingly, in addition to approving the Reliability Standard, the Commission directs the ERO to develop a modification to IRO-006-3 through the Reliability Standards development process that (1) includes a clear warning that the TLR procedure is an inappropriate and ineffective tool to mitigate actual IROL violations and (2) identifies in a Requirement the available alternatives to mitigate an IROL violation other than use of the TLR procedure. In developing the required modification, the ERO should consider the suggestions of MidAmerican and Xcel.

The IRO SDT agrees with the IRO FYRT's acknowledgment that Requirement R1 addresses the directive. The FYRT notes that IRO-008-1 and IRO-009-1 were developed after Order 693 was issued and the particular directive was addressed. The IRO SDT agrees with the FYRT's assertion that IRO-008-1, Requirement R3 and IRO-009-1, Requirement R4 are redundant with Requirement R1 and that the requirements in IRO-008-1 and IRO-009-1 are results based and specify a reliability objective to be achieved. The IRO SDT further agrees with the FYRT's conclusion that Requirement R1 in IRO-006-EAST-1 simply provides a list of actions to be taken without any parameters for their use. The requirements of IRO-008-1 and IRO-009-1 point to IROL exceedances and mitigating the magnitude and duration within the IROL's Tv.

IRO-008-1, R3: When a Reliability Coordinator determines that the results of an Operational Planning Analysis or Real-time Assessment indicates the need for specific operational actions to prevent or mitigate an instance of exceeding an IROL, the Reliability Coordinator shall share its results with those entities that are expected to take those actions.

IRO-009-1, R4: When actual system conditions show that there is an instance of exceeding an IROL in its Reliability Coordinator Area, the Reliability Coordinator shall, without delay, act or direct others to act to mitigate the magnitude and duration of the instance of exceeding that IROL within the IROL's Tv.

It should be noted that there is potential overlap between these two requirements in the instance where there is an IROL exceedance but they are not duplicative. IRO-008-1 addresses actions to prevent or mitigate an IROL exceedance while



IRO-009-1 addresses an actual exceedance and acting to mitigate the magnitude and duration of the exceedance within Tv.

A suggestion was also made to reconsider retiring Requirement R3. The IRO SDT considered retaining the requirement but determined Requirement R3 should be retired. The IRO SDT agrees with the FYRT's determination that the intent of Requirement R3 is not to define a curtailment process when the Interchange Distribution Calculator (IDC) is compromised or unavailable. In the event of an IDC failure, Transmission Loading Relief (TLR) action would be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System (BES). The IRO SDT further agrees with the FYRT's assertion that Requirement R3 contains actions that are automatically generated via the IDC tool and sent to proper entities upon issuance of the TLR. This requirement should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.

One commenter noted that the un-official comment form posted on the project page states that IRO-006-EAST-1 R1 is to be revised under Criterion B7 of Paragraph 81 but the PRT Template form states that R1 is to be retired. The commenter stated that it was their belief that the issue was an error in drafting the Comment form language and that the review template is the correct reference.

The IRO SDT concurs with the commenter and confirms that the review template is the correct reference.

### **3. IRO-009**

At least one commenter suggested the proposal to remove “without delay” from R4 should be carefully considered. The commenter noted that there was a lengthy debate on this issue during the posting and balloting of the previous version of this standard, and that the decision to leave this in the requirement was based primarily on concerns expressed by the regulatory authorities that, without such wording, Responsible Entities could delay taking actions until closer to the end of the Tv period, which would not drive the right behavior to mitigate IROL exceedances as soon as practicable.

It is the IRO SDT's position that the point of time at which the requirement is triggered is inherent in the requirement itself, and that the proposed revisions to the standard adequately support reliability as written. Therefore, the IRO SDT declines to adopt this suggestion.

At least one commenter suggested that the IRO SDT review the Measures section for consistency.

The IRO SDT has reviewed and revised the measures as appropriate for consistency and conformance to current practice.

More than one commenter suggested revision to Requirement R1 and Requirement R4 and provided proposed revision suggestions.

The IRO SDT agrees that clarifying revision will benefit the language of Requirement R1 and Requirement R4, and, as such, has reviewed and revised the language of Requirement R1 and Requirement R4.

More than one commenter stated that the IRO-009 redline is not an accurate reflection of the changes being considered in the standard. It does not show requirement R2 being revised to be Part 1.2, and it does not show requirement R5 being deleted. Standard format does not have Parts of requirements identified with “R”s.

The IRO SDT agrees that the redline to IRO-009-1 is not in the most current standard format, and, as such, has drafted the clean version of IRO-009-2 in the most current standard format.

Several commenters suggested specific revisions to the language and format of the standard.

The IRO SDT has carefully considered each suggestion and reviewed and revised the standard language and formatting as appropriate.

One commenter noted that IRO-009-2 references an IROL Violation Report in EOP-004-1, which is retired, as the form changed to an Event Reporting Form in EOP-004-2, and recommended the SDT change IRO-009-2 to reference the Event Reporting Form in EOP-004-2.

The IRO SDT agrees that IRO-009-2 should not contain a reference to a retired document, and, as such, has ensured the reference is not included in IRO-009-2.

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Director of Standards, Valerie Agnew, at 404-446-2566 or at [valerie.agnew@nerc.net](mailto:valerie.agnew@nerc.net). In addition, there is a NERC Reliability Standards Appeals Process.<sup>1</sup>

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<sup>1</sup> The appeals process is in the Standard Processes Manual: [http://www.nerc.com/comm/SC/Documents/Appendix\\_3A\\_StandardsProcessesManual.pdf](http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf)

<b>Name</b>	2015-06 IRO   IRO-006-East & IRO-009 SAR
<b>Start Date</b>	3/16/2015
<b>End Date</b>	4/15/2015

**The Industry Segments are:**

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Full Name	Entity Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Region	Group Member Segment(s)
Ben Engelby	ACES Power Marketing	6		ACES Standards Collaborators - IRO Project	Chip Koloini	Golden Spread Electric Cooperative	SPP	3,5
					Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Christina Bigelow	Electric Reliability Council of Texas, Inc.	2		IRC Standards Review Committee	Christina Bigelow	ERCOT	TRE	2
					Kathleen Goodman	ISO-NE	NPCC	
					Mark Holman	PJM	RFC	
					Charles Yeung	SPP	SPP	
					Ben Li	IESO	NPCC	
					Greg Campoli	NYISO	NPCC	
					Terry Bilke	MISO	RFC	
					Ali Miremadi	CAISO	WECC	
Michael Lowman	Duke Energy	1,3,5,6	FRCC,SERC,RFC	Mike Lowman on Behalf of Duke Energy	Doug Hils	Duke Energy	RFC	1
					Lee Schuster		FRCC	3
					Dale Goodwine		SERC	5
					Greg Cecil		RFC	6
Lee Pedowitz	Northeast Power Coordinating Council	10	NPCC	NPCC RSC 2015-06	Alan Adamson	New York State Reliability Council, LLC	NPCC	10
					David Burke	Orange and Rockland		3

						Utilities Inc.	
						Greg Campoli New York Independent System Operator	2
						Sylvain Clermont Hydro- Quebec TransEnergie	1
						Kelly Dash Consolidated Edison Co. of New York, Inc.	1
						Gerry Dunbar Northeast Power Coordinating Council	10
						Kathleen Goodman ISO - New England	2
						Mark Kenny Northeast Utilities	1
						Helen Lainis Independent Electricity System Operator	2
						Alan MacNaughto n New Brunswick Power Corporation	9
						Paul Malozewski Hydro One Networks Inc.	1
						Bruce Metruck New York Power Authority	6
						Lee Pedowicz Northeast Power	10

						Coordinating Council		
					Robert Pellegrini	The United Illuminating Company		1
					Si Truc Phan	Hydro-Quebec TransEnergie		1
					David Ramkalawan	Ontario Power Generation, Inc.		5
					Brian Robinson	Utility Services		8
					Wayne Sipperly	New York Power Authority		5
					Ben Wu	Orange and Rockland Utilities Inc.		1
					Peter Yost	Consolidated Edison Co. of New York, Inc.		3
					Michael Jones	National Grid		1
					Brian Shanahan	National Grid		1
					Silvia Parada Mitchell	NextEra Energy, LLC		5
Jason Smith	Southwest Power Pool, Inc. (RTO)	2	SPP	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool	SPP	2
					James Nail	City of Independence , Missouri		3,5

					Kevin Giles	Westar Energy		1,3,5,6
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**1. Do you agree with the recommendation regarding IRO-006-East? If not, please explain specifically what aspects of the recommendation you disagree with.**

**Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

Selected Answer:

Answer Comment:

Response:

Likes: 0

**Dislikes:** 0

---

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:** Yes

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0



---

**Dennis Minton - Florida Keys Electric Cooperative Assoc. - 1 -**

Selected Answer:

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Kaleb Brimhall - Colorado Springs Utilities - 5 -**

Selected Answer:

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Nick Vtyurin - Manitoba Hydro - 1,3,5,6 - MRO**

Selected Answer: Yes

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

**Answer Comment:**

We reiterate the following comments which were submitted in 2013 when the 5-Year Review Team's recommendations were posted for comment:

We do not agree with retiring R1 since it was added to the standard and worded that way to address a FERC directive which asked NERC to clearly include a requirement in the standard that TLR is not an effective means for mitigating IROL violation. The language "...prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)" is meant to convey the idea that TLR alone cannot and shall not be used to mitigate IROL exceedances, but can be used together with but not prior to other (presumably more effective) means.

The proposal to retire R3 also needs to be reconsidered. The need for this requirement in view of IDC's automatic generation of the actions contained in R3 was debated at length when the standard was posted for commenting and balloting in 2009. In the end, the vast majority of the industry supported the notion that such actions would be required in the event that the IDC became unavailable. Also, there was the issue with respect to who would be held responsible for communicating these actions given that it was not appropriate for the vendor of IDC to take up this responsibility and ensure the correctness of the communicated actions. We suggest the 5-Year Review Team of the SDT to consult with NERC staff (the IRO-006-5 Standard Developer) and/or the TLR SDT for further details.

**Response:****Likes:**

0

**Dislikes:** 0

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**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer:

**Answer Comment:** Not Applicable for Texas RE.

**Response:**

**Likes:** 0

**Dislikes:** 0

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**Terry Blilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Kathleen Black - DTE Energy - 3,4,5 - RFC**

Selected Answer: Yes

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -**

Selected Answer:

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

Michael Lowman - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC



Selected Answer: Yes

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

**Selected Answer:** Yes

**Answer Comment:**

The un-official comment form posted on the project page states that IRO-006-EAST R1 is to be revised under Criterion B7 of Paragraph 81 but the PRT Template form states that R1 is to be retired. We believe this to simply be an error in drafting the Comment form language and that the review template is the correct reference.

We thank the PRT for identifying the redundancy with other standards and requirements and their application of Paragraph 81 Criteria. We agree with the recommended changes developed by the PRT.

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

Selected Answer:

No

**Answer Comment:**

We do not agree with retiring R1 because it was added to the standard and worded to address a FERC directive. The directive asked NERC to clearly include a requirement in the standard that TLR is not an effective means for mitigating an IROL violation. The language "...prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)" is meant to convey the idea that TLR alone cannot and shall not be used to mitigate IROL exceedances, but can be used together with but not prior to other means. Disagree with the retirement of requirement R3 based on Paragraph 81 Criteria B1. Because the Purpose of IRO-006-East is "To provide an interconnection-wide transmission loading relief procedure (TLR) for the Eastern Interconnection that can be used to prevent and/or mitigate potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES)." it is important that the RCs communicate this information to other RCs in the Eastern Interconnection. This is administrative in nature, but it does support reliability by providing an abnormal event response procedure to all entities that might be impacted. In past discussions, the vast majority of the industry supported the notion that such actions

would be required in the event that the IDC became unavailable. Also, there was the issue with respect to who would be held responsible for communicating these actions given that it was not appropriate for the vendor of IDC to take responsibility and ensure the correctness of the communicated actions. We suggest the 5-Year Review Team of the SDT to consult with NERC staff (the IRO-006-5 Standard Developer) and/or the TLR SDT discuss and take this into consideration.

**Response:**

**Likes:** 0

**Dislikes:** 0

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**Mike Smith - Manitoba Hydro - 1 -**

**Selected Answer:** Yes

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Ben Engelby - ACES Power Marketing - 6 -**

**Selected Answer:** Yes

**Answer Comment:**

(1) While we agree with the recommendations and proposed modifications to IRO-006-EAST-1 and that IRO-006-EAST-1 R1 is redundant with IRO-009-1 R4, we have two concerns. First, we do not agree that IRO-006-EAST-1 R1 is redundant with IRO-008-1 R3 as documented in the five-year review template. Since it is redundant with another requirement this is just documentation issue that the drafting will need to address. Second, we encourage the drafting to review the proposed retirement of IRO-006-EAST-1 with FERC. As we recall, this requirement was added per a FERC directive when IRO-006 was approved.

(2) We agree that R3 is administrative documentation that meets P81 criteria. However, we encourage the drafting team to retain this documentation in the technical or application guidelines. It is helpful for those that do not use the IDC every day to understand how it works.

**Response:**

**Likes:** 0

**Dislikes:** 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

**Answer Comment:**

NOTE: IESO supports and joins these SRC comments generally, but does not support the retirement of Requirements R1 – R3. MISO and CAISO do not join these SRC comments.

**Response:**

Likes: 0

Dislikes: 0

***2. Do you agree with the recommendation regarding IRO-009-1? If not, please explain specifically what aspects of the recommendation you disagree with.***

**Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

Selected Answer:

Answer Comment:

Response:

Likes: 0



**Dislikes:** 0

---

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:** Yes

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Dennis Minton - Florida Keys Electric Cooperative Assoc. - 1 -**

Selected Answer:

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Kaleb Brimhall - Colorado Springs Utilities - 5 -**

Selected Answer:

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Nick Vtyurin - Manitoba Hydro - 1,3,5,6 - MRO**

Selected Answer: Yes

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

**Answer Comment:**

As indicated in our comments submitted during the posting of the 5-Year Review Team's recommendations in 2013, the proposal to remove "without delay" from R4 needs to be carefully considered. There was a lengthy debate on this during the posting and balloting of the previous version of this standard. The decision to leave this in the requirement was based primarily on concerns expressed by the regulatory authorities that, without such wording, Responsible Entities could delay taking actions until closer to the end of the Tv period. This would not drive the right behavior to mitigate IROL exceedances as soon as practicable. Please consult FERC staff and the NERC facilitator (Standard Developer) for the project and/or the Reliability Coordination SDT.

**Response:**

**Likes:** 0

**Dislikes:** 0

---

Rachel Coyne - Texas Reliability Entity, Inc. - 10 -

Selected Answer: Yes

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

Terry Bllke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Kathleen Black - DTE Energy - 3,4,5 - RFC**

**Selected Answer:** Yes

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -**

Selected Answer:

**Answer Comment:**

Tacoma Power suggests that the Measures section be consistent. Measures M1 and M3 include language that refers to corresponding requirements. For example, Measure M1 includes "...in accordance with Requirement R1"; Measure M3 includes "...in accordance with Requirement R3". Measures M2 and M4, however, do not include references to their applicable requirements.



**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Michael Lowman - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Selected Answer:** Yes

**Answer Comment:**

**Duke Energy suggests the following modification to R4:**

**“When mitigating the magnitude and duration of an IROL, and unanimity cannot be reached, each Reliability Coordinator that**

monitors that Facility (or group of Facilities) shall use the most limiting of the values under consideration.”

We believe this allows Requirement 4 to be a stand-alone requirement and would not have to refer to other requirements for interpretation.

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Selected Answer:** Yes

**Answer Comment:**

We agree the revisions in IRO-009-1 improve the clarity of the Standard overall and provide a valid correction to the VSL on R3 regarding the five-minute timeframe.

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

Selected Answer:

No

**Answer Comment:**

The posted IRO-009 redline is not an accurate reflection of the changes being considered in the standard. It does not show requirement R2 being revised to be Part 1.2, and it does not show requirement R5 being deleted. Standard format does not have Parts of requirements identified with "R"s.

It is not necessary to add Parts 1.1 and 1.2 (shown as R1.1 and R1.2). Requirement R1 wording can be revised to "...that can be implemented in time to prevent to prevent exceeding each of the identified IROL Tv."

In requirement R4, suggest revising the wording to "...immediately use the most limiting of the values under consideration to minimize the impact on reliability."

As indicated in comments submitted during the posting of the 5-Year Review Team's recommendations in 2013, the proposal to remove "without delay" from R4 needs to be carefully considered. There was a lengthy debate on this during the posting and balloting of the previous version of this standard. The decision to leave this in the requirement was based primarily on concerns expressed by the regulatory authorities that, without such wording, Responsible Entities could delay taking actions until closer to the end of the Tv period. This would not drive the right behavior to mitigate IROL exceedances as soon as practicable.

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Mike Smith - Manitoba Hydro - 1 -**

**Selected Answer:** Yes

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Ben Engelby - ACES Power Marketing - 6 -**

**Selected Answer:** Yes

**Answer Comment:** (1) R1 should be modified to use the approved format for NERC standards. Standards should use numbered lists or bullets in place of sub-requirements.

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

**Selected Answer:** Yes

**Answer Comment:**

The SRC suggests that the recommendations are appropriate, but has concerns regarding the potential redlines provided. More specifically, the SRC suggests that:

- Different interpretations regarding “expected” versus “actual” system conditions have been observed throughout the time period for

which IRO-009 has been effective. Consistent definitions between the “expected” versus “actual” system conditions would be valuable to the reliability of the BES and would help to ensure that the data gathered for metrics related to IROL exceedances remains effective, accurate, and indicative of the impact of IROL exceedances on the BES. The SDT should evaluate how these terms can be clarified.

- Terms such as “use” introduce ambiguity and should be evaluated for a determination of whether a more defined, specific action is expected and/or can be articulated.
- The SDT should evaluate and revise the replaced requirement numbers as necessary to ensure accurate mapping between new and retired requirements. In particular, the SRC has identified two potential issues:
  - R1.2 is a replacement for the old Requirement R2 (not a replacement for the incorrectly referenced R 1.1 which did not exist).
  - The comment form states that Requirements R1, R4, and R5 are to be revised, but, in the redline, there is no Requirement R5.
- The SRC suggests that the phrase “each of the identified IROLs such that each IROL...,” which was added to Requirement R2 is redundant and should be revised to state “the identified IROL such that it...” More specifically, because Requirement R1 starts with the phrase “For each IROL...,” which phrase already limits the sub requirements to a single identified IROL.
- The SRC cannot support the proposal to remove “without delay” from R4. There was a lengthy debate on the use of this term previously and the decision to leave this in the requirement was based on concerns (particularly of the regulatory authorities) that, without such wording, Responsible Entities could delay taking actions until closer to the end of the Tv period. This would not drive the right behavior to mitigate IROL exceedances as soon as practicable.

NOTE: MISO and CAISO do not join these SRC comments.

**Response:**



Likes: 0

Dislikes: 0

***3. If you have any other comments on the Five-Year Review Recommendation that you have not already mentioned above, please provide them here:***

**Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

Selected Answer:

Answer Comment:

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer:

**Answer Comment:**

**Response:**

Likes: 0

Dislikes: 0

---

**Dennis Minton - Florida Keys Electric Cooperative Assoc. - 1 -**

Selected Answer:

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

**Kaleb Brimhall - Colorado Springs Utilities - 5 -**

Selected Answer:

**Answer Comment:**

**Response:**

Likes: 0

Dislikes: 0

**Nick Vtyurin - Manitoba Hydro - 1,3,5,6 - MRO**

Selected Answer:

Answer Comment:

Response:

Likes: 0

Dislikes: 0

**Leonard Kula - Independent Electricity System Operator - 2 -**

Selected Answer:

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer:

**Answer Comment:**

Texas RE noticed IRO-009-2 references an IROL Violation Report in EOP-004-1, which is retired. The form changed to an Event Reporting Form in EOP-004-2. Texas RE recommends the SDT change IRO-009-2 to reference the Event Reporting Form in EOP-004-2.

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Terry Blilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer:

**Answer Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**Kathleen Black - DTE Energy - 3,4,5 - RFC**

Selected Answer:

**Answer Comment:**



**Response:**

**Likes:** 0

**Dislikes:** 0

---

**John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -**

Selected Answer:

**Answer Comment:**

**Response:**

Likes: 0

Dislikes: 0

---

**Michael Lowman - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

Selected Answer:

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

**Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

Selected Answer:

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

Selected Answer:

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer:

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

**Ben Engelby - ACES Power Marketing - 6 -**

Selected Answer:

Answer Comment:

Response:

Likes: 0

Dislikes: 0

---

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer:

**Answer Comment:**

Recommendations for consideration are: &bull; Modify the requirements to improve its clarity and measurability while removing ambiguity.

NOTE: MISO and CAISO do not join these SRC comments.

**Response:**

**Likes:** 0

**Dislikes:** 0



## Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

### Description of Current Draft

This version of Reliability Standard IRO-006-EAST is posted for a 45-day concurrent comment and ballot period to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team. That review resulted in a recommended drafting effort, which is being conducted by the Project 2015-06 Project 2015-06 Interconnection Reliability Operations and Coordination standard drafting team.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	March 11, 2015
SAR posted for comment	March 16 – April 15, 2015

Anticipated Actions	Anticipated Dates
45-day formal or informal comment period with ballot	May – July 2015
Final ballot	July 2015
NERC Board (Board) adoption	November 2015

### **New or Modified Term(s) Used in NERC Reliability Standards**

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

**Term(s):** None.

The rationale boxes will be moved to the Supplemental Material Section of the standard after the standard is adopted by the NERC Board of Trustees.

## **A. Introduction**

- 1. Title:**           **Transmission Loading Relief Procedure for the Eastern Interconnection**
- 2. Number:**       IRO-006-EAST-2
- 3. Purpose:**      To ensure coordinated action between Reliability Coordinators within the Eastern Interconnection when implementing transmission loading relief procedures (TLR) for the Eastern Interconnection to prevent or manage potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).
- 4. Applicability:**
  - 4.1. Functional Entities:**
    - 4.1.1.** Reliability Coordinators in the Eastern Interconnection
- 5. Effective Date:** See Implementation Plan for IRO-006-EAST-2.

## **B. Requirements and Measures**

**Rationale for recommendation to retire Requirement R1:** The standard drafting team (IRO SDT) agrees with the FYRT’s assertion that IRO-006-EAST-1 Requirement R1 is redundant with IRO-008-1, Requirement R3, and IRO-009-1, Requirement R4, and that the requirements in IRO-008-1 and IRO-009-1 are results based and specify a reliability objective to be achieved. The IRO SDT further agrees with the FYRT’s conclusion that IRO-006-EAST-1 Requirement R1 simply provides a list of actions to be taken without any parameters for their use.

**Rationale for recommendation to retire Requirement R3:** The IRO SDT agrees with the FYRT’s determination that the intent of Requirement R3 is not to define a curtailment process when the IDC is compromised or unavailable. In the event of an IDC failure, TLR action would be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System. The IRO SDT further agrees with the FYRT’s assertion that Requirement R3 contains actions that are automatically generated via the IDC tool and sent to proper entities upon issuance of the TLR. This requirement should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.

**Rationale for revisions to new Requirement R1 (previously Requirement R2):** The IRO SDT provided edits to improve clarity and to incorporate and simplify the sub-requirements into the main requirement.

- R1.** Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance shall identify the TLR level and the congestion management actions to be implemented, and shall update this information at least every clock hour (except TLR-1) after initiation up to and including the hour when the TLR level has been identified as TLR Level 0.<sup>1</sup> [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]
- M1.** Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that at the time it initiated the Eastern Interconnection TLR procedure, and at least every clock hour after initiation up to and including the hour when the TLR level was identified as TLR Level 0, the Reliability Coordinator identified both the TLR Level and a list of congestion management actions to be implemented in accordance with Requirement R1.

**Rationale for Revisions to new Requirement R2 (previously Requirement R4):** The IRO SDT provided edits to improve clarity and to incorporate and simplify some of the bullets into the main requirement, and modified the remaining bullet to be a requirement instead of a passive statement.

- R2.** Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority to implement the congestion management actions within 15 minutes of receiving the request from the issuing Reliability Coordinator, subject to the following exception: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- Should an assessment determine that one or more of the congestion management actions communicated will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions with the issuing Reliability Coordinator.
- M2.** Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall provide evidence (such as dated logs, voice recordings, or other

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<sup>1</sup> For more information on TLR levels, please see "Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document."

information in electronic or hard-copy format) that within fifteen minutes of the receipt of a request, the Reliability Coordinator complied with the request by either 1) instructing the Sink Balancing Authority to implement the congestion management actions requested by the issuing Reliability Coordinator, or 2) implementing none or some of the communicated congestion management actions requested by the issuing Reliability Coordinator, and replacing the remainder with alternate congestion management actions if assessment showed that some or all of the requested congestion management actions would have resulted in a reliability concern or would have been ineffective in accordance with Requirement R2.

## C. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

#### 1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

For Requirement R1 and Requirement R2, the Reliability Coordinator shall maintain evidence to show compliance with Requirement R1 and Requirement R2 for the past 12 months plus the current month.

If a Reliability Coordinator is found non-compliant, it shall keep information related to the non-compliance until found compliant.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

#### 1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

#### 1.4. Additional Compliance Information

None.

### Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
<b>R1.</b>	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for one clock hour during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for two clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for three clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for four or more clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.
<b>R2.</b>				The responding Reliability Coordinator did not, within 15 minutes of receiving a request, either 1) instruct the Sink Balancing Authority to implement all the requested congestion management actions, or 2) coordinate alternate congestion management actions with the issuing Reliability Coordinator,

				provided that: assessment showed that the actions replaced would have resulted in a reliability concern or would have been ineffective.
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**D. Regional Variances**

None.

**E. Associated Documents**

Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document

**Version History**

Version	Date	Action	Change Tracking
1		Adopted by NERC Board of Trustees	November 4, 2010
2			Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.



Standard Attachments

**Implementation Guideline for Reliability Coordinators:  
Eastern Interconnection TLR Levels**

The listed system conditions examples are intended to assist the Reliability Coordinator in determining what level of TLR to call. The Reliability Coordinator has the discretion to choose any of these levels regardless of the examples listed, provided the Reliability Coordinator has reliability reasons to take such action. TLR levels are neither required nor expected to be issued in numerical order of level.

**Table 1: Eastern Interconnection TLR Levels**

Level	Examples of Possible System Conditions
TLR-1	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is expected to approach or exceed its SOL or IROL within 8 hours.</li> </ul>
TLR-2	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is approaching or is at its SOL or IROL.                             <ul style="list-style-type: none"> <li>○ Analysis shows that holding new and increasing non-firm Interchange Transactions and energy flows for the next hour can prevent exceeding this SOL or IROL.</li> </ul> </li> </ul>
TLR-3a	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is expected to exceed its SOL or IROL within the next hour.                             <ul style="list-style-type: none"> <li>○ Analysis shows that full or partial curtailment or reallocation<sup>2</sup> of non-firm Interchange Transactions and energy flows can prevent exceeding this SOL and IROL.</li> </ul> </li> </ul>
TLR-3b	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is exceeding its SOL or IROL; or</li> <li>• At least one Transmission Facility is expected to exceed its SOL or IROL within the current hour.                             <ul style="list-style-type: none"> <li>○ Analysis shows that full or partial curtailment or reallocation<sup>2</sup> of non-firm Interchange Transactions and energy flows can prevent exceeding this SOL or IROLs.</li> </ul> </li> </ul>
TLR-4	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is expected to exceed its SOL or IROL.                             <ul style="list-style-type: none"> <li>○ Analysis shows that full curtailment of non-firm Interchange Transactions and energy flows, or reconfiguration of the transmission system can prevent exceeding this SOL or IROL.</li> </ul> </li> </ul>
TLR-5a	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is expected to exceed its SOL or IROL within the next hour.                             <ul style="list-style-type: none"> <li>○ Analysis shows that the following actions can prevent exceeding the SOL or IROL:                                     <ul style="list-style-type: none"> <li>▪ Full curtailment non-firm Interchange Transactions and energy flows, and</li> <li>▪ Reconfiguration of the transmission system, if possible, and</li> </ul> </li> </ul> </li> </ul>

<sup>2</sup> "Reallocation" is a term defined within the NAESB TLR standards.

## Supplemental Material

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	<ul style="list-style-type: none"><li>▪ Full or partial curtailment or reallocation<sup>4</sup> of firm Interchange Transactions and energy flows.</li></ul>
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Level	Examples of Possible System Conditions
TLR-5b	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is exceeding its SOL or IROL; or</li> <li>• At least one Transmission Facility is expected to exceed its SOL or IROL within the current hour.                             <ul style="list-style-type: none"> <li>○ Analysis shows that the following actions can prevent exceeding the SOL or IROL:                                     <ul style="list-style-type: none"> <li>▪ Full curtailment of non-firm Interchange Transactions and energy flows, and</li> <li>▪ Reconfiguration of the transmission system, if possible; and</li> <li>▪ Full or partial curtailment or reallocation<sup>2</sup> of firm Interchange Transactions and energy flows.</li> </ul> </li> </ul> </li> </ul>
TLR-6	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is exceeding its SOL or IROL; or</li> <li>• At least one Transmission Facility is expected to exceed its SOL or IROL upon the removal from service of a generating unit or another transmission facility.</li> </ul>
TLR-0	<ul style="list-style-type: none"> <li>• No transmission facilities are expected to approach or exceed their SOL or IROL within 8 hours, and the Interconnection-wide transmission loading relief procedure may be terminated</li> </ul>

### Rationale

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.

## Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

### Description of Current Draft

This version of Reliability Standard IRO-006-EAST is posted for a 45-day concurrent comment and ballot period to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team. That review resulted in a recommended drafting effort, which is being conducted by the Project 2015-06 Interconnection Reliability Operations and Coordination standard drafting team.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	March 11, 2015
SAR posted for comment	March 16 – April 15, 2015

Anticipated Actions	Anticipated Dates
45-day formal or informal comment period with ballot	May – July 2015
Final ballot	July 2015
NERC Board (Board) adoption	November 2015

### New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

**Term(s):** None.

## Standard IRO-006-EAST-~~4~~2 — TLR Procedure for the Eastern Interconnection

The rationale boxes will be moved to the Supplemental Material Section of the standard after the standard is adopted by the NERC Board of Trustees.

### A. Introduction

1. **Title: Transmission Loading Relief Procedure for the Eastern Interconnection**
2. **Number: IRO-006-EAST-~~4~~2**
3. **Purpose:** To ensure coordinated action between Reliability Coordinators within the Eastern provide an-Interconnection-wide when implementing transmission loading relief procedures (TLR) for the Eastern Interconnection ~~that can be used~~ to prevent ~~and/or~~ mitigate-manage potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).
4. **Applicability:**
  - 4.1. Reliability Coordinators in the Eastern Interconnection.
5. **Proposed Effective Date:** See the Implementation Plan for IRO-006-EAST-2. ~~First day of the first calendar quarter following the date this standard is approved by applicable regulatory authorities, or in those jurisdictions where regulatory approval is not required, the standard becomes effective on the first day of the first calendar quarter after the date this standard is approved by the NERC Board of Trustees.~~

### B. Requirements

**Rationale for recommendation to retire Requirement R1:** The standard drafting team (IRO SDT) agrees with the FYRT's assertion that IRO-006-EAST-1 Requirement R1 is redundant with IRO-008-1, Requirement R3, and IRO-009-1, Requirement R4, and that the requirements in IRO-008-1 and IRO-009-1 are results based and specify a reliability objective to be achieved. The IRO SDT further agrees with the FYRT's conclusion that IRO-006-EAST-1 Requirement R1 simply provides a list of actions to be taken without any parameters for their use.

~~R1. When acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's TV, each Reliability Coordinator shall initiate, prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated), one or more of the following actions: [Violation Risk Factor: High] [Time Horizon: Real-time Operations]~~

- ~~• Inter-area redispatch of generation~~
- ~~• Intra-area redispatch of generation~~
- ~~• Reconfiguration of the transmission system~~
- ~~• Voluntary load reductions (e.g., Demand-side Management)~~

**Standard IRO-006-EAST-42 — TLR Procedure for the Eastern Interconnection**

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- ~~Controlled load reductions (e.g., load shedding)~~
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**Rationale for revisions to new Requirement R1 (previously Requirement R2):** The IRO SDT provided edits to improve clarity and to incorporate and simplify the sub-requirements into the main requirement.

**R12.** ~~Each Reliability Coordinator that initiates~~~~To ensure operating entities are provided with information needed to maintain an awareness of changes to the Transmission System, when initiating~~ the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance, shall identify the TLR level and the congestion management actions to be implemented, and shall update this information at least every clock hour (~~with the exception of TLR-1, where an hourly update is not required~~) after initiation up to and including the hour when the TLR level has been identified as TLR Level 0.<sup>1</sup>, ~~the Reliability Coordinator shall identify:~~ [Violation Risk Factor: Medium] [-Time Horizon: Real-time Operations]

**2.1.** ~~— A list of congestion management actions to be implemented, and~~  
~~One of the following TLR levels: TLR 1, TLR 2, TLR 3A,~~  
~~TLR 3B, TLR 4, TLR 5A, TLR 5B, TLR 6, TLR 0~~<sup>1</sup>

<sup>1</sup>For more information on TLR levels, please see “Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document.”

<sup>1</sup> For more information on TLR levels, please see “Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document.”  
Approved by the Board of Trustees on November 4, 2010



**Rationale for recommendation to retire Requirement R3:** The IRO SDT agrees with the FYRT's determination that the intent of Requirement R3 is not to define a curtailment process when the IDC is compromised or unavailable. In the event of an IDC failure, TLR action would be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System. The IRO SDT further agrees with the FYRT's assertion that Requirement R3 contains actions that are automatically generated via the IDC tool and sent to proper entities upon issuance of the TLR. This requirement should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.

- ~~**R3.** Upon the identification of the TLR level and a list of congestion management actions to be implemented, the Reliability Coordinator initiating this TLR procedure shall: [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]~~
- ~~**3.1.** Notify all Reliability Coordinators in the Eastern Interconnection of the identified TLR level~~
- ~~**3.2.** Communicate the list of congestion management actions to be implemented to 1.) all Reliability Coordinators in the Eastern Interconnection, and 2.) those Reliability Coordinators in other Interconnections responsible for curtailing Interchange Transactions crossing Interconnection boundaries identified in the list of congestion management actions.~~
- ~~**3.3.** Request that the congestion management actions identified in Requirement R2, Part 2.1 be implemented by:~~
- ~~1.) Each Reliability Coordinator associated with a Sink Balancing Authority for which Interchange Transactions are to be curtailed,~~
- ~~2.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which Network Integration Transmission Service or Native Load is to be curtailed, and~~
- ~~3.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which its Market Flow is to be curtailed.~~

**Rationale for Revisions to new Requirement R2 (previously Requirement R4):** The IRO SDT provided edits to improve clarity and to incorporate and simplify some of the bullets into the main requirement, and modified the remaining bullet to be a requirement instead of a passive statement.

- R42.** Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern

## Standard IRO-006-EAST-42 — TLR Procedure for the Eastern Interconnection

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~~Interconnection TLR procedure that receives a request as described in Requirement R3, Part 3.3. shall instruct the Sink Balancing Authority to implement the congestion management actions;~~ within 15 minutes of receiving the request, ~~implement the congestion management actions requested by~~ from the issuing Reliability Coordinator, subject to the following exception: as follows: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]

- ~~• Instruct its Balancing Authorities to implement the Interchange Transaction schedule change requests.~~
- ~~• Instruct its Balancing Authorities to implement the Network Integration Transmission Service and Native Load schedule changes for which the Balancing Authorities are responsible.~~
- ~~• Instruct its Balancing Authorities to implement the Market Flow schedule changes for which the Balancing Authorities are responsible.~~
- Should If an assessment determines ~~shows~~ that one or more of the congestion management actions communicated ~~in Requirement R3, Part 3.3~~ will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions with the issuing Reliability Coordinator ~~the Reliability Coordinator may replace those specific actions with alternate congestion management actions, provided that:~~

~~The alternate congestion management actions have been agreed to by the initiating Reliability Coordinator, and~~

~~The assessment shows that the alternate congestion management actions will not adversely affect reliability.~~

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Measures

~~C. M1. Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that when acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's T<sub>v</sub>, the Reliability Coordinator initiated one or more of the actions listed in R1 prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)(R1).~~

**M21.** Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that at the time it initiated the Eastern Interconnection TLR procedure, and at least every clock hour after initiation up to and including the hour when the TLR level was identified as TLR Level 0, the Reliability Coordinator identified both the TLR Level and a list of congestion management actions to be implemented in accordance with Requirement R1(R2).

~~M3. Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that after it identified a TLR level and a list of congestion management actions to take, it 1-) notified all Reliability Coordinators in the Eastern Interconnection of the TLR Level, 2-) communicated the list of actions to all Reliability Coordinators in the Eastern Interconnection and those Reliability Coordinators in other Interconnections responsible for curtailing Interchange Transactions crossing Interconnection boundaries identified in the list of congestion management actions, and 3-) requested the Reliability Coordinators identified in Requirement R3 Part 3.2 to implement the congestion management actions identified in Requirement R2 Part 2.1 (R3).~~

**M42.** Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that within fifteen minutes of the receipt of a request ~~as described in R3~~, the Reliability Coordinator complied with the request by either 1-) instructing the Sink Balancing Authority to implement the congestion management actions~~implementing the communicated congestion management actions~~ requested by the issuing Reliability Coordinator, or 2-) implementing none or some of the communicated congestion management actions requested by the issuing Reliability Coordinator, and replacing the remainder with alternate congestion management actions if assessment showed that some or all of the requested congestion management actions ~~communicated in R3~~ would have resulted in a reliability concern or would have been ineffective, ~~the alternate congestion management actions were agreed to by the initiating Reliability Coordinator,~~ and assessment showed that the alternate congestion management actions would not adversely affect reliability in accordance with Requirement R2(R4).

**1. Compliance Monitoring Process**

**1.1. Compliance Enforcement Authority:**

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

**1.2. Evidence Retention:**

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

For Requirement R1 and Requirement R2, the Reliability Coordinator shall maintain evidence to show compliance with Requirement R1 and Requirement R2 for the past 12 months plus the current month.

If a Reliability Coordinator is found non-compliant, it shall keep information related to the non-compliance until found compliant.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

**1.3. Compliance Monitoring and Enforcement Program**

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

**1.4. Additional Compliance Information**

None.

~~1.1. Compliance Enforcement Authority~~

~~Regional Entity.~~

~~1.2. Compliance Monitoring and Enforcement~~

~~Processes: The following processes may be used:~~

~~Compliance Audits~~

~~Self-Certifications~~

~~Spot Checking~~

~~Compliance Violation Investigations~~

~~Self-Reporting~~

~~Complaints~~

~~1.3. Data Retention~~

~~The Reliability Coordinator shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:~~

~~The Reliability Coordinator shall maintain evidence to show compliance with R1, R2, R3, and R4 for the past 12 months plus the current month.~~

~~If a Reliability Coordinator is found non-compliant, it shall keep information related to the non-compliance until found compliant.~~

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

~~1.4. Additional Compliance Information~~

~~None.~~

3. Violation Severity Levels

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1				<p><del>When acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's Tv, the Reliability Coordinator did not initiate one or more of the actions listed under R1 prior to or in conjunction with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated).</del></p>

**Standard IRO-006-EAST-21 — TLR Procedure for the Eastern**

<p><u>R21</u></p>	<p>The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for one clock hour during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.</p>	<p>The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for two clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.</p>	<p>The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for three clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.</p>	<p>The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for four or more clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.</p>
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R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R42				<p>The responding Reliability Coordinator did not, within 15 minutes of receiving a request, either 1-) <u>instruct the Sink Balancing Authority to</u> implement all the requested congestion management actions, or 2-) <del>implement none or some of the requested congestion management actions and replace the remainder with</del> <u>coordinate</u> alternate</p>



R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
				<p><u>congestion</u> management actions <u>with the issuing Reliability Coordinator</u>, provided that: assessment showed that the actions replaced would have resulted in a reliability concern or would have been ineffective. <del>the alternate congestion management actions were agreed to by the initiating Reliability Coordinator, and assessment determined that the alternate congestion management actions would not adversely affect reliability.</del></p>

**E. Variances**

None.

**F. Associated Documents**

Implementation Guideline for Reliability Coordinators:  
Eastern Interconnection TLR Levels Reference Document

**G. ~~Revision~~ Version History**

Version	Date	Action	Tracking
<del>1</del>		<del>Creation of new standard, incorporating concepts from IRO-006-4 Attachment; elimination of Regional Differences, as the standard allows the use of Market Flow</del>	New
<u>1</u>		<u>Adopted by NERC Board of Trustees</u>	<u>November 4, 2010</u>
<u>2</u>			<u>Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.</u>
<del>1</del>	<del>April 21, 2011</del>	<del>FERC Order issued approving IRO-006-EAST-1 (approval effective June 27, 2011)</del>	

## Standard Attachments

### Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels

The listed system conditions examples are intended to assist the Reliability Coordinator in determining what level of TLR to call. The Reliability Coordinator has the discretion to choose any of these levels regardless of the examples listed, provided the Reliability Coordinator has reliability reasons to take such action. TLR levels are neither required nor expected to be issued in numerical order of level.

**Table 1: Eastern Interconnection TLR Levels**

<u>Level</u>	<u>Examples of Possible System Conditions</u>
<u>TLR-1</u>	<ul style="list-style-type: none"> <li>• <u>At least one Transmission Facility is expected to approach or exceed its SOL or IROL within 8 hours.</u></li> </ul>
<u>TLR-2</u>	<ul style="list-style-type: none"> <li>• <u>At least one Transmission Facility is approaching or is at its SOL or IROL.</u> <ul style="list-style-type: none"> <li>○ <u>Analysis shows that holding new and increasing non-firm Interchange Transactions and energy flows for the next hour can prevent exceeding this SOL or IROL.</u></li> </ul> </li> </ul>
<u>TLR-3a</u>	<ul style="list-style-type: none"> <li>• <u>At least one Transmission Facility is expected to exceed its SOL or IROL within the next hour.</u> <ul style="list-style-type: none"> <li>○ <u>Analysis shows that full or partial curtailment or reallocation<sup>2</sup> of non- firm Interchange Transactions and energy flows can prevent exceeding this SOL and IROL.</u></li> </ul> </li> </ul>
<u>TLR-3b</u>	<ul style="list-style-type: none"> <li>• <u>At least one Transmission Facility is exceeding its SOL or IROL; or</u></li> <li>• <u>At least one Transmission Facility is expected to exceed its SOL or IROL within the current hour.</u> <ul style="list-style-type: none"> <li>○ <u>Analysis shows that full or partial curtailment or reallocation<sup>2</sup> of non- firm Interchange Transactions and energy flows can prevent exceeding this SOL or IROLs.</u></li> </ul> </li> </ul>
<u>TLR-4</u>	<ul style="list-style-type: none"> <li>• <u>At least one Transmission Facility is expected to exceed its SOL or IROL.</u> <ul style="list-style-type: none"> <li>○ <u>Analysis shows that full curtailment of non-firm Interchange Transactions and energy flows, or reconfiguration of the transmission system can prevent exceeding this SOL or IROL.</u></li> </ul> </li> </ul>
<u>TLR-5a</u>	<ul style="list-style-type: none"> <li>• <u>At least one Transmission Facility is expected to exceed its SOL or IROL within the next hour.</u> <ul style="list-style-type: none"> <li>○ <u>Analysis shows that the following actions can prevent exceeding the SOL or IROL:</u> <ul style="list-style-type: none"> <li>▪ <u>Full curtailment non-firm Interchange Transactions and energy flows, and</u></li> <li>▪ <u>Reconfiguration of the transmission system, if possible, and</u></li> <li>▪ <u>Full or partial curtailment or reallocation<sup>2</sup> of firm Interchange Transactions and energy flows.</u></li> </ul> </li> </ul> </li> </ul>

<sup>2</sup> "Reallocation" is a term defined within the NAESB TLR standards.

<u>Level</u>	<u>Examples of Possible System Conditions</u>
<u>TLR-5b</u>	<ul style="list-style-type: none"> <li>• <u>At least one Transmission Facility is exceeding its SOL or IROL; or</u></li> <li>• <u>At least one Transmission Facility is expected to exceed its SOL or IROL within the current hour.</u> <ul style="list-style-type: none"> <li>◦ <u>Analysis shows that the following actions can prevent exceeding the SOL or IROL:</u> <ul style="list-style-type: none"> <li>▪ <u>Full curtailment of non-firm Interchange Transactions and energy flows, and</u></li> <li>▪ <u>Reconfiguration of the transmission system, if possible; and</u></li> <li>▪ <u>Full or partial curtailment or reallocation<sup>2</sup> of firm Interchange Transactions and energy flows.</u></li> </ul> </li> </ul> </li> </ul>
<u>TLR-6</u>	<ul style="list-style-type: none"> <li>• <u>At least one Transmission Facility is exceeding its SOL or IROL; or</u></li> <li>• <u>At least one Transmission Facility is expected to exceed its SOL or IROL upon the removal from service of a generating unit or another transmission facility.</u></li> </ul>
<u>TLR-0</u>	<ul style="list-style-type: none"> <li>• <u>No transmission facilities are expected to approach or exceed their SOL or IROL within 8 hours, and the Interconnection-wide transmission loading relief procedure may be terminated</u></li> </ul>

**\* FOR INFORMATIONAL PURPOSES ONLY \***

**Enforcement Dates: Standard IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection**

**United States**

<b>Standard</b>	<b>Requirement</b>	<b>Enforcement Date</b>	<b>Inactive Date</b>
IRO-006-EAST-1	All	07/01/2011	

## Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

### Description of Current Draft

This version of Reliability Standard IRO-009 is posted for a 45-day concurrent comment and ballot period to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team. That review resulted in a recommended drafting effort, which is being conducted by the Project 2015-06 Interconnection Reliability Operations and Coordination standard drafting team.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	March 11, 2015
SAR posted for comment	March 16 – April 15, 2015

Anticipated Actions	Anticipated Dates
45-day formal or informal comment period with ballot	May – July 2015
Final ballot	July 2015
NERC Board of Trustees (Board) adoption	November 2015

### **New or Modified Term(s) Used in NERC Reliability Standards**

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

**Term(s):** None.

The rationale boxes will be moved to the Supplemental Material Section of the standard after the standard is adopted by the Board.

## **A. Introduction**

- 1. Title:** Reliability Coordinator Actions to Operate Within IROLs
- 2. Number:** IRO-009-2
- 3. Purpose:** To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).
- 4. Applicability:**
  - 4.1. Functional Entities:**
    - 4.1.1.** Reliability Coordinator.
- 5. Effective Date:** See the Implementation Plan for IRO-009-2.

## **B. Requirements and Measures**

**Rationale for revisions to Requirement R1:** The standard drafting team (IRO SDT) revised this requirement by combining IRO-009-1 Requirements R1 and R2 to form one requirement with two subparts to make the requirements more concise, as both requirements contained similar language.

- R1.** For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions the Reliability Coordinator shall take or actions the Reliability Coordinator shall direct others to take (up to and including load shedding): *[Violation Risk Factor: Medium]*  
*[Time Horizon: Operations Planning or Same Day Operations]*
  - 1.1** That can be implemented in time to prevent the identified IROL exceedance.
  - 1.2** To mitigate the magnitude and duration of an IROL exceedance such that the IROL is relieved within the IROL's  $T_v$ .
- M1.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it has Operating Processes, Procedures, or Plans to address both preventing and mitigating the magnitude and duration of IROL exceedances in accordance with Requirement R1. This evidence shall include a list of any IROLs (and each associated  $T_v$ ) identified in advance, along with one or more dated Operating Processes, Procedures, or Plans that that will be used.



**Rationale for revisions to new Requirement R2 (previously Requirement R3):** The IRO SDT revised the language of this requirement to improve clarity as well as consistency with similar NERC Board of Trustees (Board) approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real Time monitoring,” and “Real Time Assessments.”

- R2.** Each Reliability Coordinator shall initiate one or more Operating Processes, Procedures, or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirement R1) that are intended to prevent an IROL exceedance, as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M2.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it initiated one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) in accordance with Requirement R2. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**Rationale for Revisions to Requirement R3 (previously Requirement R4):** The IRO SDT removed the term “without delay” from the requirement upon determining that the point of time at which the requirement is triggered is inherent in the requirement itself. The IRO SDT also revised the language of this requirement to improve clarity as well as consistency with similar Board approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real Time monitoring,” and “Real Time Assessments.”

- R3.** Each Reliability Coordinator shall act or direct others to act so that the magnitude and duration of an IROL exceedance is mitigated within the IROL’s  $T_v$ , as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M3.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**Rationale for revisions to Requirement R4 (previously Requirement R5):** The IRO SDT revised the language of this requirement for clarity as well as consistency with similar

Board approved standards, such as TOP standard revisions (TOP-001-3 R18). The IRO SDT retained clarifying language to limit applicability to appropriate affected RCs.

- R4.** Each Reliability Coordinator shall operate to the most limiting IROL and Tv in instances where there is a difference in an IROL or its Tv between Reliability Coordinators that are responsible for that Facility (or group of Facilities). *[Violation Risk Factor: High]*  
*[Time Horizon: Real-time Operations]*
- M4.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it operated to the most limiting IROL and Tv in instances where there was a difference in an IROL or its Tv. Such evidence could include, but is not limited to, dated computer printouts, dated operator logs, dated voice recordings, dated transcripts of voice recordings, or other equivalent evidence in accordance with Requirement R4.

## C. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

#### 1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

The Reliability Coordinator shall retain evidence of Requirement R1; Requirement R2; Requirement R3; and Requirement R4 for a rolling 12 months.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and all IROL Violation Reports submitted since the last audit.

#### 1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

#### 1.4. Additional Compliance Information

**Exception Reporting:** For each instance of exceeding an IROL for time greater than IROL Tv, the Reliability Coordinator shall submit an IROL Violation Report to its Compliance Enforcement Authority within 30 days of the initiation of the event.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.				<p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to prevent that IROL exceedance (Part 1.1).</p> <p style="text-align: center;">OR</p> <p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate that IROL exceedance within the IROL’s Tv. (Part 1.2).</p>
R2.				No Operating Processes, Procedures, or Plans were

				initiated that were intended to prevent a predicted IROL exceedance as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.
<b>R3.</b>				Actual system conditions showed that there was an IROL exceedance in its Reliability Coordinator Area, and that the IROL exceedance was not mitigated within the IROL’s Tv.
<b>R4.</b>				The most limiting IROL or its Tv was not operated to between Reliability Coordinators that are responsible for the Facility (or group of Facilities) associated with the IROL.

**D. Regional Variances**

None.

**E. Associated Documents**

IROL Violation Report

### Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by NERC Board of Trustees	
2			Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.

### Standard Attachments

None.

### Rationale

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.

## Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

### Description of Current Draft

This version of Reliability Standard IRO-009 is posted for a 45-day concurrent comment and ballot period to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team. That review resulted in a recommended drafting effort, which is being conducted by the Project 2015-06 Interconnection Reliability Operations and Coordination standard drafting team.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	March 11, 2015
SAR posted for comment	March 16 – April 15, 2015

Anticipated Actions	Anticipated Dates
45-day formal or informal comment period with ballot	May – July 2015
Final ballot	July 2015
NERC Board of Trustees (Board) adoption	November 2015



### New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

Term(s): **None.**

The rationale boxes will be moved to the Supplemental Material Section of the standard after the standard is adopted by the Board.

## A. Introduction

1. **Title:** Reliability Coordinator Actions to Operate Within IROLs
2. **Number:** IRO-009-~~12~~
3. **Purpose:** To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).
4. **Applicability:**
  - 4.1. Reliability Coordinator.
5. ~~**Proposed Effective Date:**  
In those jurisdictions where no regulatory approval is required, the standard shall become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after BOT adoption.  
  
In those jurisdictions where regulatory approval is required, the standard shall become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after applicable regulatory approval. See the Implementation Plan for IRO-009-2.~~

## B. Requirements

**Rationale for revisions to Requirements R1:** The standard drafting team (IRO SDT) revised this requirement by combining IRO-009-1 Requirements R1 and R2 to form one requirement with two subparts to make the requirements more concise, as both requirements contained similar language.

- R1.** For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions ~~it~~ the Reliability Coordinator shall take or actions ~~it~~ the Reliability Coordinator shall direct others to take (up to and including load shedding); ~~that can be implemented in time to prevent exceeding those IROLs.~~ (Violation Risk Factor: Medium) (Time Horizon: Operations Planning or Same Day Operations)

~~1.1 — That can be implemented in time to prevent the identified IROL exceedance.~~

~~1.1~~

- 1.2 ~~**R2.** — For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) t~~To mitigate the magnitude and duration of ~~exceeding~~ an that IROL-IROL exceedance such that the IROL is relieved within the IROL's

Standard IRO-009-24 — Reliability Coordinator Actions to Operate Within IROLs

*Tv. (Violation Risk Factor: Medium) (Time Horizon: Operations Planning or Same-Day Operations)*

**Rationale for revisions to new Requirement R2 (previously Requirement R3):** The IRO SDT revised the language of this requirement to improve clarity as well as consistency with similar NERC Board of Trustees (Board) approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real Time monitoring,” and “Real Time Assessments.”

**R23.** ~~When an assessment of actual or expected system conditions predicts that an IROL in its Reliability Coordinator Area will be exceeded, the Each~~ Reliability Coordinator shall ~~implement~~ initiate one or more Operating Processes, Procedures, or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) that are intended to prevent ~~exceeding that an~~ IROL exceedance as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.  
*(Violation Risk Factor: High) (Time Horizon: Real-time Operations)*

**Rationale for revisions to new Requirement R3 (previously Requirement R4):** The IRO SDT removed the term “without delay” from the requirement upon determining that the point of time at which the requirement is triggered is inherent in the requirement itself. The IRO SDT also revised the language of this requirement to improve clarity as well as consistency with similar Board approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real Time monitoring,” and “Real Time Assessments.”

**R4R3.** ~~When actual system conditions show that there is an instance of exceeding an IROL in its Reliability Coordinator Area, the Each~~ Reliability Coordinator shall, ~~without delay,~~ act or direct others to act so that to mitigate the magnitude and duration of ~~the instance of exceeding that an~~ IROL exceedance is mitigated within the IROL’s *Tv.* identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment. *(Violation Risk Factor: High-) (Time Horizon: Real-time Operations)*

**Rationale for revisions to Requirement R4 (previously Requirement R5):** The IRO SDT revised the language of this requirement for clarity as well as consistency with similar Board approved standards, such as TOP standard revisions (TOP-001-3 R18). The IRO SDT retained clarifying language to limit applicability to appropriate affected RCs.

~~R45. If unanimity cannot be reached on the value for an IROL or its  $T_v$ , e~~Each Reliability Coordinator ~~that monitors that Facility (or group of Facilities) shall operate to; without delay, use~~ the most limiting IROL and  $T_v$  in instances where there is a difference in an IROL or its  $T_v$  between Reliability Coordinators that are responsible for that Facility (or group of Facilities). ~~conservative of the values (the value with the least impact on reliability) under consideration.~~ (*Violation Risk Factor: High*) (*Time Horizon: Real-time Operations*)

### C. Measures

**M1.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it has Operating Processes, Procedures, or Plans to address both preventing and mitigating the magnitude and duration of IROL exceedances ~~instances of exceeding IROLs~~ in accordance with Requirement R1 ~~and Requirement R2~~. This evidence shall include a list of any IROLs (and each associated  $T_v$ ) identified in advance, along with one or more dated Operating Processes, Procedures, or Plans that that will be used.

**M2.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it initiated one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) in accordance with Requirement R2. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**M3.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence. ~~M2. Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3 and Requirement R4. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.~~

~~**M43.** For a situation where Reliability Coordinators disagree on the value of an IROL or its  $T_v$  the~~Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it operated to the most limiting IROL and  $T_v$  in instances where there was a difference in an IROL or its  $T_v$  ~~used the most conservative of the values under consideration, without delay.~~ Such evidence could include, but is not limited to, dated computer printouts, dated operator logs, dated voice recordings, dated transcripts of voice recordings, or other equivalent evidence in accordance with Requirement R4. ~~(R5)~~

## D. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

~~For Reliability Coordinators that work for the Regional Entity, the ERO shall serve as the Compliance Enforcement Authority.~~

~~For Reliability Coordinators that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.~~

#### 1.1. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

The Reliability Coordinator shall retain evidence of Requirement R1; Requirement R2; Requirement R3; and Requirement for a rolling 12 months.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and all IROL Violation Reports submitted since the last audit.

#### 1.2. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

#### 1.3. Additional Compliance Information

**Exception Reporting:** For each instance of exceeding an IROL for time greater than IROL Tv, the Reliability Coordinator shall submit an IROL Violation Report to its Compliance Enforcement Authority within 30 days of the initiation of the event.

#### ~~1.2. Compliance Monitoring Period and Reset Time Frame~~

~~Not applicable.~~

#### ~~1.3. Compliance Monitoring and Enforcement Processes~~

~~Compliance Audits~~

~~Self-Certifications~~

~~Spot-Checking~~

~~Compliance Violation Investigations~~

~~Self-Reporting~~

Complaints

~~Exception Reporting~~

~~1.4. Data Retention~~

~~The Reliability Coordinator, shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:~~

~~The Reliability Coordinator shall retain evidence of Requirement R1, Requirement R2, and Measure M1, for a rolling 12 months.~~

~~The Reliability Coordinator shall retain evidence of Requirement R3, Requirement R4, Requirement R5, Measure M2, and Measure M3 for a rolling 12 months.~~

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and all IROL Violation Reports submitted since the last audit.~~

~~1.5. Additional Compliance Information~~

~~**Exception Reporting:** For each instance of exceeding an IROL for time greater than IROL  $T_v$ , the Reliability Coordinator shall submit an IROL Violation Report to its Compliance Enforcement Authority within 30 days of the initiation of the event.~~

2. Violation Severity Levels

Requirement	Lower	Moderate	High	Severe
<p><b>R1</b></p>				<p><u>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to prevent that IROL exceedance (Part 1.1).</u></p> <p style="text-align: center;"><u>OR</u></p> <p><u>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate that IROL exceedance within the IROL’s Tv. (Part 1.2)</u><del>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the</del></p>



Standard IRO-009-~~24~~ — Reliability Coordinator Actions to Operate Within IROLs

<p><del>R2</del></p>				<p>An IROL in its Reliability-Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL's Tv. (<del>R2</del>)</p>
<p><del>R23</del></p>				<p>An assessment of actual or expected system conditions predicted that an IROL in the Reliability Coordinator's Area would be exceeded, but <u>n</u>No Operating Processes, Procedures, or Plans were <u>implemented</u> <u>initiated</u> that were intended to prevent a predicted IROL exceedance as identified in the <u>Reliability Coordinator's Real-time monitoring or Real-time Assessment</u>. (<del>R3</del>)</p>

Standard IRO-009-~~21~~ — Reliability Coordinator Actions to Operate Within IROLs

<p><b>R<del>34</del></b></p>			<p><del>Actual system conditions showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and there was a delay of five minutes or more before acting or directing others to act to mitigate the magnitude and duration of the instance of exceeding that IROL, however the IROL was mitigated within the IROL Tv.</del></p>	<p>Actual system conditions <u>showed that there was an IROL exceedance in its Reliability Coordinator Area, and that the IROL exceedance was not resolved/</u><del>mitigated</del> <u>within the IROL's Tv.</u></p>
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Requirement	Lower	Moderate	High	Severe
			<p><del>_ showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and there was a delay of five minutes or more before acting or directing others to act to mitigate the magnitude and duration of the instance of exceeding that IROL, however the IROL was mitigated within the IROL Tv. (R4)</del></p>	<p><del>showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and that IROL was not resolved within the IROL's Tv. (R4)</del></p>
<p><b>R45</b></p>	<p>Not applicable.</p>	<p>Not applicable.</p>	<p>Not applicable.</p>	<p><u>The most limiting IROL or its TV was not operated to between Reliability Coordinators that are responsible for the Facility (or group of Facilities) associated with the IROL. There was a disagreement on the value of the IROL or its Tv and the most conservative limit under consideration was not used. (R5)</u></p>

**E. Regional Variances**

None

**F. Associated Documents**

IROL Violation Report

**Version History**

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by NERC Board of Trustees	
<del>1</del>	<del>March 17, 2011</del>	<del>Order issued by FERC approving IRO-009-1 (approval effective 5/23/11)</del>	
<del>1</del>	<del>February 28, 2014</del>	<del>Updated VRFs based on June 24, 2013 approval.</del>	
<u>2</u>			<u>Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.</u>

**\* FOR INFORMATIONAL PURPOSES ONLY \***

**Enforcement Dates: Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs**

**United States**

<b>Standard</b>	<b>Requirement</b>	<b>Enforcement Date</b>	<b>Inactive Date</b>
IRO-009-1	All	10/01/2011	

## Implementation Plan

### Project 2015-06 Interconnection Reliability Operations and Coordination IRO-006-EAST-2

#### Standards Involved

##### Approval:

- IRO-006-EAST-2 – Transmission Loading Relief Procedure for the Eastern Interconnection

##### Retirement:

- IRO-006-EAST-1 – Transmission Loading Relief Procedure for the Eastern Interconnection

#### Prerequisite Approvals

N/A

#### Background

Project 2015-06 Interconnection Reliability Operations and Coordination (Project) was initiated to implement the Project 2012-09 Interconnection Reliability Operations Five-Year Review Team (FYRT) recommendations to revise IRO-006-EAST-1 and IRO-009-1.

The FYRT originally reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-East, IRO-008-1, IRO-009-1 and IRO-010-1a, and recommended revising all of these standards except for IRO-006-5, which was reaffirmed by the NERC Board of Trustees (Board). Additionally, Project 2014-03 Revisions to TOP and IRO Standards, retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-EAST-1 and IRO-009-1 with outstanding recommendations for revision.

Based on the FYRT's recommendation to revise IRO-006-EAST-1 and industry comments in response to the 30-day informal comment period for the Project ending on April 15, 2015, the Project standard drafting team (SDT) recommends revising the standard as reflected in the posted documents.

#### General Considerations

Reliability Standard IRO-006-EAST-2 is proposed for approval to address the recommendations of the five-year review and industry comments.

#### Effective Date

Reliability Standard IRO-006-EAST-2 shall become effective on the first day of the second calendar quarter after the date that the standard is approved by an applicable governmental authority or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is

required for a standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective the first day of the first calendar quarter after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

**Retirement of Existing Standards**

Reliability Standard IRO-006-EAST-1 shall be retired at midnight of the day immediately prior to the effective date of IRO-006-EAST-2 in the particular jurisdiction in which the revised standard is becoming effective.

**Implementation Plan**

Reliability Standard IRO-006-EAST-1 will continue to be implemented pursuant to the Implementation Plan for IRO-006-EAST-1 and is incorporated herein by reference.

**Cross References**

The Implementation Plan for IRO-006-EAST-1 is available [here](#).

## Implementation Plan

### Project 2015-06 Interconnection Reliability Operations and Coordination IRO-009-2

#### Standards Involved

##### Approval:

- IRO-009-2 – Reliability Coordinator Actions to Operate within IROs

##### Retirement:

- IRO-009-1 – Reliability Coordinator Actions to Operate within IROs

#### Prerequisite Approvals

N/A

#### Background

Project 2015-06 Interconnection Reliability Operations and Coordination (Project) was initiated to implement the Project 2012-09 Interconnection Reliability Operations Five-Year Review Team (FYRT) recommendations to revise IRO-006-EAST-1 and IRO-009-1.

The FYRT originally reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-East, IRO-008-1, IRO-009-1 and IRO-010-1a, and recommended revising all of these standards except for IRO-006-5, which was reaffirmed by the NERC Board of Trustees (Board). Additionally, Project 2014-03 Revisions to TOP and IRO Standards, retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-EAST-1 and IRO-009-1 with outstanding recommendations for revision.

Based on the FYRT's recommendation to revise IRO-009-1 and industry comments in response to the 30-day informal comment period for the Project ending on April 15, 2015 the Project standard drafting team (SDT) recommends revising the standard as reflected in the posted documents.

#### General Considerations

Reliability Standard IRO-009-2 is proposed for approval to address the recommendations of the five-year review and industry comments.

#### Effective Date

Reliability Standard IRO-009-2 shall become effective on the first day of the first calendar quarter after the date that the standard is approved by an applicable governmental authority or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a



standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective the first day of the first calendar quarter after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

**Retirement of Existing Standards**

Reliability Standard IRO-009-1 shall be retired at midnight of the day immediately prior to the effective date of IRO-009-2 in the particular jurisdiction in which the revised standard is becoming effective.

**Implementation Plan**

Reliability Standard IRO-009-1 will continue to be implemented pursuant to the Implementation Plan for IRO-009-1 and is incorporated herein by reference.

**Cross References**

The Implementation Plan for IRO-009-1 is available [here](#).

# Unofficial Comment Form

## Project 2015-06 Interconnection Reliability Operations and Coordination

**DO NOT** use this form for submitting comments. Use the [electronic form](#) to submit comments on IRO-006-EAST and IRO-009 and associated documents. The electronic comment form must be completed by **8:00 p.m. Eastern July 08, 2015**.

If you have questions, contact [Katherine Street](#) (via email) or by telephone at 404.446.9702.

[Project 2015-06 Interconnection Reliability Operations and Coordination](#)

### Background Information

This project involves the following two IRO standards:

- IRO-006-EAST-2 – Transmission Loading Relief Procedure for the Eastern Interconnection
- IRO-009-2 – Reliability Coordinator Actions to Operate Within IROs

Project 2015-06 was initiated in response to work done by the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team (FYRT). As the five-year review has resulted in a recommendation to revise IRO-006-EAST-1 and IRO-009-1, a separate drafting team has been tasked with Project 2015-06, which is implementing the Project 2012-09 IRO FYRT's recommendations on IRO-006-East-1 and IRO-009-1.

The FYRT reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-East-1, IRO-008-1, IRO-009-1 and IRO-010-1a and posted eight draft recommendations for industry comment. All standards were recommended for revision except for IRO-006-5, which was presented to the NERC Board of Trustees (Board) for reaffirmation. A final set of recommendations and a Standard Authorization Request (SAR) were submitted to the Standards Committee (SC) in October 2013. However, Project 2014-03, Revisions to TOP and IRO Standards, retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-East-1 and IRO-009-1 recommended for revision.

The IRO Standard Drafting Team (IRO SDT) has implemented the FYRT recommendations. Since Project 2012-09 was scoped, a number of initiatives have been implemented to improve the overall quality of the NERC standards, including retirement of unnecessary or redundant requirements under Paragraph 81 of the Federal Energy Regulatory Commission's March 15, 2012 order<sup>1</sup>, consideration of Independent Expert Review Panel recommendations, and implementation of results-based concepts in the standards.

The IRO SDT considered elements of the five-year review and industry comments, including those that resulted from the SAR 30-day informal comment period for Project 2015-06, as it implemented the FYRT's recommendations.

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<sup>1</sup> *Order Accepting with Conditions the Electric Reliability Organization's Petition Requesting Approval of New Enforcement Mechanisms and Requiring Compliance Filing*, 138 FERC ¶61,193 (2012).

## Questions

You do not have to answer all questions. Enter comments in simple text format. Bullets, numbers, and special formatting will not be retained.

1. The IRO SDT recommends retiring IRO-006-EAST-1 Requirement R1. Do you agree with the retirement of IRO-006-EAST-1 Requirement R1? If not, please explain specifically what aspects of the retirement you disagree with.

Yes

No

Comments:

2. The IRO SDT recommends revising IRO-006-EAST-1 Requirement R2. Do you agree with the proposed revisions to IRO-006-EAST-1 Requirement R2? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.

Yes

No

Comments:

3. The IRO SDT recommends retiring IRO-006-EAST-1 Requirement R3. Do you agree with the retirement of IRO-006-EAST-1 Requirement R3? If not, please explain specifically what aspects of the retirement you disagree with.

Yes

No

Comments:

4. The IRO SDT recommends revising IRO-006-EAST-1 Requirement R4. Do you agree with the proposed revisions to IRO-006-EAST-1 Requirement R4? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.

Yes

No

Comments:

5. The IRO SDT recommends revising IRO-009-1 Requirement R1 to include elements of IRO-009-1 Requirement R2. Do you agree with the proposed revisions to IRO-009-1 Requirement R1? If not,

please explain specifically what aspects of the revisions you disagree with and propose alternative language.

- Yes  
 No

Comments:

6. The IRO SDT recommends revising IRO-009-1 Requirement R3. Do you agree with the proposed revisions to IRO-009-1 Requirement R3? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.

- Yes  
 No

Comments:

7. The IRO SDT recommends revising IRO-009-1 Requirement R4. Do you agree with the proposed revisions to IRO-009-1 Requirement R4? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.

- Yes  
 No

Comments:

8. The IRO SDT recommends revising IRO-009-1 Requirement R5. Do you agree with the proposed revisions to IRO-009-1 Requirement R5? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.

- Yes  
 No

Comments:

9. If you have any other comments that you have not already mentioned above, please provide them here:

Comments:

# Project 2015-06 – Interconnection Reliability Operations and Coordination

## Mapping Document | Updated May 2015

This mapping document shows the translation of Requirements in the following currently-enforceable standards to revised standards developed in Project 2015-06:

- IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection
- IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities

Standard IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection	
Requirement in Approved Standard	Proposed Language in New Standard or Comment
<p><b>R1.</b> When acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL’s TV, each Reliability Coordinator shall initiate, prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated), one or more of the following actions:</p> <ul style="list-style-type: none"> <li>• Inter-area redispatch of generation</li> <li>• Intra-area redispatch of generation</li> <li>• Reconfiguration of the transmission system</li> <li>• Voluntary load reductions (e.g., Demand-side Management)</li> <li>• Controlled load reductions (e.g., load shedding)</li> </ul>	<p>Standard IRO-006-EAST-2 — Transmission Loading Relief Procedure for the Eastern Interconnection</p> <p><b>Rationale for recommendation to retire Requirement R1:</b> <i>The IRO standard drafting team (IRO SDT) agrees with the FYRT’s assertion that IRO-006-EAST-1 Requirement R1 is redundant with IRO-008-1, Requirement R3, and IRO-009-1, Requirement R4, and that the requirements in IRO-008-1 and IRO-009-1 are results based and specify a reliability objective to be achieved. The IRO SDT further agrees with the Five Year Review Team’s (FYRT) conclusion that IRO-006-EAST-1 Requirement R1 simply provides a list of actions to be taken without any parameters for their use.</i></p>
<p><b>R2.</b> To ensure operating entities are provided with information needed to maintain an awareness of changes to the Transmission System, when initiating the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance, and at least every clock hour (with the exception of TLR-1, where an hourly update is not required) after initiation up to and including the hour when the TLR level has been</p>	<p>Standard IRO-006-EAST-2 — Transmission Loading Relief Procedure for the Eastern Interconnection</p> <p><b>R1.</b> Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance shall identify the TLR level and the congestion management actions to be implemented, and shall update this information at least every clock hour (except TLR-1) after initiation up to and including the hour when the TLR level has been identified as TLR Level 0.<sup>1</sup></p>

**Standard IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection**

Requirement in Approved Standard	Proposed Language in New Standard or Comment
<p>identified as TLR Level 0, the Reliability Coordinator shall identify:</p> <ul style="list-style-type: none"> <li><b>2.1.</b> A list of congestion management actions to be implemented, and</li> <li><b>2.2.</b> One of the following TLR levels: TLR-1, TLR-2, TLR-3A, TLR-3B, TLR-4, TLR-5A, TLR-5B, TLR-6, TLR-0</li> </ul>	<hr/> <p><sup>1</sup> For more information on TLR levels, please see “Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document.”</p> <p><b><i>Rationale for revisions to new Requirement R1 (previously Requirement R2):</i></b> The IRO SDT provided edits to improve clarity and to incorporate and simplify the sub-requirements into the main requirement.</p>
<p><b>R3.</b> Upon the identification of the TLR level and a list of congestion management actions to be implemented, the Reliability Coordinator initiating this TLR procedure shall:</p> <ul style="list-style-type: none"> <li><b>3.1.</b> Notify all Reliability Coordinators in the Eastern Interconnection of the identified TLR level</li> <li><b>3.2.</b> Communicate the list of congestion management actions to be implemented to 1.) all Reliability Coordinators in the Eastern Interconnection, and 2.) those Reliability Coordinators in other Interconnections responsible for curtailing Interchange Transactions crossing Interconnection boundaries identified in the list of congestion management actions.</li> <li><b>3.3.</b> Request that the congestion management actions identified in Requirement R2, Part 2.1 be implemented by: <ul style="list-style-type: none"> <li>1.) Each Reliability Coordinator associated with a Sink Balancing Authority for which Interchange Transactions are to be curtailed,</li> </ul> </li> </ul>	<p>Standard IRO-006-EAST-2 — Transmission Loading Relief Procedure for the Eastern Interconnection</p> <p><b><i>Rationale for recommendation to retire Requirement R3:</i></b> The IRO SDT agrees with the FYRT’s determination that the intent of Requirement R3 is not to define a curtailment process when the Interchange Distribution Calculator (IDC) is compromised or unavailable. In the event of an IDC failure, TLR action would be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System. The IRO SDT further agrees with the FYRT’s assertion that Requirement R3 contains actions that are automatically generated via the IDC tool and sent to proper entities upon issuance of the TLR. This requirement should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.<sup>1</sup></p>

<sup>1</sup> Paragraph 81 Criteria available at: [http://www.nerc.com/pa/Stand/Project%20200812%20Coordinate%20Interchange%20Standards%20DL/Paragraph\\_81\\_Criteria.pdf](http://www.nerc.com/pa/Stand/Project%20200812%20Coordinate%20Interchange%20Standards%20DL/Paragraph_81_Criteria.pdf).

**Standard IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection**

Requirement in Approved Standard	Proposed Language in New Standard or Comment
<p>2.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which Network Integration Transmission Service or Native Load is to be curtailed, and</p> <p>3.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which its Market Flow is to be curtailed.</p>	
<p><b>R4.</b> Each Reliability Coordinator that receives a request as described in Requirement R3, Part 3.3. shall, within 15 minutes of receiving the request, implement the congestion management actions requested by the issuing Reliability Coordinator as follows:</p> <ul style="list-style-type: none"> <li>• Instruct its Balancing Authorities to implement the Interchange Transaction schedule change requests.</li> <li>• Instruct its Balancing Authorities to implement the Network Integration Transmission Service and Native Load schedule changes for which the Balancing Authorities are responsible.</li> <li>• Instruct its Balancing Authorities to implement the Market Flow schedule changes for which the Balancing Authorities are responsible.</li> <li>• If an assessment determines shows that one or more of the congestion management actions communicated in Requirement R3, Part 3.3 will result in a reliability concern or will be ineffective, the Reliability Coordinator may replace those specific actions with alternate congestion management actions, provided that:</li> </ul>	<p align="center"><b>Standard IRO-006-EAST-2 — Transmission Loading Relief Procedure for the Eastern Interconnection</b></p> <p><b>R2.</b> Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority to implement the congestion management actions within 15 minutes of receiving the request from the issuing Reliability Coordinator, subject to the following exception:</p> <ul style="list-style-type: none"> <li>• Should an assessment determine that one or more of the congestion management actions communicated will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions with the issuing Reliability Coordinator.</li> </ul> <p><i><b>Rationale for Revisions to new Requirement R2 (previously Requirement R4):</b> The IRO SDT provided edits to improve clarity and to incorporate and simplify some of the bullets into the main requirement, and modified the remaining bullet to be a requirement instead of a passive statement.</i></p>

**Standard IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection**

<b>Requirement in Approved Standard</b>	<b>Proposed Language in New Standard or Comment</b>
<ul style="list-style-type: none"><li>• The alternate congestion management actions have been agreed to by the initiating Reliability Coordinator, and</li><li>• The assessment shows that the alternate congestion management actions will not adversely affect reliability.</li></ul>	



**Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities**

Requirement in Approved Standard	Proposed Language in New Standard or Comment
<p><b>R1.</b> For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) that can be implemented in time to prevent exceeding those IROLs.</p>	<p>Standard IRO-009-2 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities</p> <p><b>R1.</b> For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions the Reliability Coordinator shall take or actions the Reliability Coordinator shall direct others to take (up to and including load shedding):</p> <p><b>1.1</b> That can be implemented in time to prevent the identified IROL exceedance.</p> <p><b>1.2</b> To mitigate the magnitude and duration of an IROL exceedance such that the IROL is relieved within the IROL’s Tv.</p>
<p><b>R2.</b> For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) to mitigate the magnitude and duration of exceeding that IROL such that the IROL is relieved within the IROL’s Tv.</p>	<p>Standard IRO-009-2 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities</p> <p><b>Rationale for revisions to this Requirement (previously Requirement R2):</b> <i>The IRO SDT revised this requirement by combining IRO-009-1 Requirements R1 and R2 to form one requirement, Requirement R1, with two subparts to make the requirements more concise, as both requirements contained similar language.</i></p>
<p><b>R3.</b> When an assessment of actual or expected system conditions predicts that an IROL in its Reliability Coordinator Area will be exceeded, the Reliability Coordinator shall implement one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) to prevent exceeding that IROL.</p>	<p>Standard IRO-009-2 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities</p> <p><b>R2.</b> Each Reliability Coordinator shall initiate one or more Operating Processes, Procedures, or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirement R1) that are intended to prevent an IROL exceedance, as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.</p> <p><b>Rationale for revisions to new Requirement R2 (previously Requirement R3):</b> <i>The IRO SDT revised the language of this requirement to improve clarity as well as consistency with similar</i></p>

**Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities**

Requirement in Approved Standard	Proposed Language in New Standard or Comment
	<p><i>NERC Board of Trustees (Board) approved standards, such as, TOP standard revisions (TOP-001-3 R14); "IROL exceedance," "Real Time monitoring," and "Real Time Assessments."</i></p>
<p><b>R4.</b> When actual system conditions show that there is an instance of exceeding an IROL in its Reliability Coordinator Area, the Reliability Coordinator shall, without delay, act or direct others to act to mitigate the magnitude and duration of the instance of exceeding that IROL within the IROL’s Tv.</p>	<p>Standard IRO-009-2 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities</p> <p><b>R3.</b> Each Reliability Coordinator shall act or direct others to act so that the magnitude and duration of an IROL exceedance is mitigated within the IROL’s Tv, as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.</p> <p><b>Rationale for Revisions to Requirement R3 (previously Requirement R4):</b> <i>The IRO SDT removed the term “without delay” from the requirement upon determining that the point of time at which the requirement is triggered is inherent in the requirement itself. The IRO SDT also revised the language of this requirement to improve clarity as well as consistency with similar Board approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real Time monitoring,” and “Real Time Assessments.”</i></p>
<p><b>R5.</b> If unanimity cannot be reached on the value for an IROL or its Tv, each Reliability Coordinator that monitors that Facility (or group of Facilities) shall, without delay, use the most conservative of the values (the value with the least impact on reliability) under consideration.</p>	<p>Standard IRO-009-2 — Reliability Coordinator Actions to Operate Within IROLs - Responsibilities and Authorities</p> <p><b>R4.</b> Each Reliability Coordinator shall operate to the most limiting IROL and Tv in instances where there is a difference in an IROL or its Tv between Reliability Coordinators that are responsible for that Facility (or group of Facilities).</p> <p><b>Rationale for revisions to Requirement R4 (previously Requirement R5):</b> <i>The IRO SDT revised the language of this requirement for clarity as well as consistency with similar Board approved standards, such as TOP standard revisions (TOP-001-3 R18). The IRO SDT retained clarifying language to limit applicability to appropriate affected RCs.</i></p>

# Violation Risk Factor and Violation Severity Level Justifications

Project 2015-06 Interconnection Reliability Operations and Coordination

IRO-006-EAST-2, IRO-009-2

## Violation Risk Factor and Violation Severity Level Justifications

This document provides the drafting team's justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for each requirement in IRO-006-EAST-2 (Transmission Loading Relief Procedure for the Eastern Interconnection) and IRO-009-2 (Reliability Coordinator Actions to Operate within IROLs).

Each primary requirement is assigned a VRF and a set of one or more VSLs. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the ERO Sanction Guidelines.

The Interconnection Reliability Operations and Coordination Standard Drafting Team applied the following NERC criteria and FERC Guidelines when proposing VRFs and VSLs for the requirements under this project:

### NERC Criteria – VRFs

#### High Risk Requirement

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

#### Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to

effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

### **Lower Risk Requirement**

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

## **FERC VRF Guidelines**

### **Guideline (1) – Consistency with the Conclusions of the Final Blackout Report**

The Commission seeks to ensure that VRFs assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System.

In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings
- Synchronized data recorders
- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief

### **Guideline (2) – Consistency within a Reliability Standard**

The Commission expects a rational connection between the sub-Requirement VRF assignments and the main Requirement VRF assignment.

**Guideline (3) — Consistency among Reliability Standards**

The Commission expects the assignment of VRFs corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

**Guideline (4) — Consistency with NERC’s Definition of the VRF Level**

Guideline 4 was developed to evaluate whether the assignment of a particular VRF level conforms to NERC’s definition of that risk level.

**Guideline (5) — Treatment of Requirements that Co-mingle More Than One Obligation**

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

## Consideration of FERC VRF Guidelines

The following discussion addresses how the SDT considered FERC’s VRF Guidelines 2 through 5. The team did not address Guideline 1 directly because of an apparent conflict between Guidelines 1 and 4. Whereas Guideline 1 identifies a list of topics that encompass nearly all topics within NERC’s Reliability Standards and implies that these requirements should be assigned a “High” VRF, Guideline 4 directs assignment of VRFs based on the impact of a specific requirement to the reliability of the system. The SDT believes that Guideline 4 is reflective of the intent of VRFs in the first instance and therefore concentrated its approach on the reliability impact of the requirements.

### IRO-006-EAST-2

Reliability Standard IRO-006-EAST-2 is a revision of IRO-006-EAST-1 TLR Procedure for the Eastern Interconnection, with the following stated purpose: “To ensure coordinated action between Reliability Coordinators within the Eastern Interconnection when implementing transmission loading relief procedures (TLR) for the Eastern Interconnection to prevent or manage potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).”

Reliability Standard IRO-006-EAST-2 has two (2) requirements that address identification of TLR level(s) and identification and instruction to implement congestion management actions. The requirements originated from revisions to two (2) requirements that existed in Reliability Standard IRO-006-EAST-1, Requirement R2 and Requirement R4. Reliability Standard IRO-006-EAST-2 seeks to retire two (2) other requirements that existed in IRO-006-EAST-1, Requirement R1 and Requirement R3. As such, the VRFs and VSLs associated with IRO-006-EAST-1, Requirement R1 and Requirement R3 have not been included in IRO-006-EAST-2.

Reliability Standard IRO-006-EAST-2 Requirement R1 maps to IRO-006-EAST-1 Requirement R2, and IRO-006-EAST-2 Requirement R2 maps to IRO-006-EAST-1 Requirement R4. The drafting team did not revise the VRFs for the requirements of IRO-006-EAST-2 Requirement R1 or Requirement R2.

The drafting team revised the VSL for IRO-006-EAST-2 Requirement R2 to conform to the revisions to the language of IRO-006-EAST-2 Requirement R2.

### **IRO-009-2**

Reliability Standard IRO-009-2 is a revision of IRO-009-1 Reliability Coordinator Actions to Operate Within IROLs, with the following stated purpose: To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).

Reliability Standard IRO-009-2 has four (4) requirements that address Reliability Coordinator Operating Process, Procedure, or Plans that identify actions the Reliability Coordinator shall take or actions the Reliability Coordinator shall direct others to take to prevent exceeding that IROL, that can be implemented in time to prevent exceeding the identified IROL, mitigate exceeding that IROL within the IROL's Tv, Operating Processes, Procedures or Plans to prevent an IROL exceedance as part of its Real-time monitoring or Real-time Assessment, acts the Reliability Coordinator shall take or direct others to take so that the magnitude and duration of an IROL exceedance is mitigated within the IROL's Tv as part of its Real-time monitoring or Real-time Assessment, and Reliability Coordinator operation to the most limiting IROL and Tv in instances where there is a difference in an IROL or its Tv between Reliability Coordinators that are responsible for a Facility (or group of Facilities). The requirements originated from revisions to the five (5) requirements that existed in IRO-009-1, Requirement R1 through Requirement R5. Reliability Standard IRO-009-2 seeks to revise Requirement R1 and R2 by incorporating the requirements from Requirement R2 into Requirement R1 as Part R1.1 and R1.2.

The IRO-009-2 Requirement R1 maps to IRO-009-1 Requirement R1 and Requirement R2. The VRFs for IRO-009-1 Requirement R1 and Requirement R2 were both medium, therefore, the drafting team did not revise the VRFs for the requirements when revising IRO-009-2 Requirement R1 to include IRO-009-1 Requirement R2.

Reliability Standard IRO-009-2 Requirement R2 maps to IRO-009-1 Requirement R3; IRO-009-2 Requirement R3 maps to IRO-009-1 Requirement R4; IRO-009-2 Requirement R4 maps to IRO-009-1 Requirement R5. The drafting team did not revise the VRFs for the requirements of IRO-006-EAST-1 Requirement R3, Requirement R4, or Requirement R5.

The drafting team revised the VSLs for IRO-009-2 Requirements R2 through R4 to conform to the revisions to the language of IRO-009-2 Requirements R2 through R4.

**NERC Criteria - VSLs**

VSLs define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one (1) VSL. While it is preferable to have four (4) VSLs for each requirement, some requirements do not have multiple “degrees” of noncompliant performance and may have only one (1), two (2), or three (3) VSLs.

VSLs should be based on the guidelines shown in the table below:

Lower	Moderate	High	Severe
<p>Missing a minor element (or a small percentage) of the required performance</p> <p>The performance or product measured has significant value as it almost meets the full intent of the requirement.</p>	<p>Missing at least one significant element (or a moderate percentage) of the required performance.</p> <p>The performance or product measured still has significant value in meeting the intent of the requirement.</p>	<p>Missing more than one significant element (or is missing a high percentage) of the required performance or is missing a single vital Component.</p> <p>The performance or product has limited value in meeting the intent of the requirement.</p>	<p>Missing most or all of the significant elements (or a significant percentage) of the required performance.</p> <p>The performance measured does not meet the intent of the requirement or the product delivered cannot be used in meeting the intent of the requirement.</p>

## FERC Order on VSLs

In its June 19, 2008 Order<sup>1</sup> on VSLs, FERC indicated it would use the following four guidelines for determining whether to approve VSLs:

### **Guideline 1: VSL Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance**

- Compare the VSLs to any prior Levels of Non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when Levels of Non-compliance were used.

### **Guideline 2: VSL Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties**

- Guideline 2a: A violation of a “binary” type requirement must be a “Severe” VSL.
- Guideline 2b: Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

### **Guideline 3: VSL Assignment Should Be Consistent with the Corresponding Requirement**

- VSLs should not expand on what is required in the requirement.

### **Guideline 4: VSL Assignment Should Be Based on a Single Violation, Not on a Cumulative Number of Violations**

- . . . unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the “default” for penalty calculations.

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<sup>1</sup> *Order on Violation Severity levels Proposed by the Electric Reliability Organization*, 123 FERC ¶61,284 (2008)



VRF and VSL Justifications

VRF and VSL Justifications – IRO-006-EAST-2, R2			
Proposed VSL – IRO-006-EAST-2, R2			
Lower	Moderate	High	Severe
			The responding Reliability Coordinator did not, within 15 minutes of receiving a request, either 1) instruct the Sink Balancing Authority to implement all the requested congestion management actions, or 2) coordinate alternate congestion management actions with the issuing Reliability Coordinator, provided that: assessment showed that the actions replaced would have resulted in a reliability concern or would have been ineffective.
FERC VSL G3 VSL Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.		
FERC VSL G4	The VSL is based on a single violation and not cumulative violations.		

**VRF and VSL Justifications – IRO-006-EAST-2, R2**

**Proposed VSL – IRO-006-EAST-2, R2**

VSL Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations

**VRF and VSL Justifications – IRO-009-2, R1**

**Proposed VRF – IRO-009-2, R1**

Proposed VRF	Medium
NERC VRF Discussion	<p>Failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv could directly affect the electrical state or the capability of the bulk power system. However, violation of this requirement is unlikely to lead to bulk power system instability, separation, or cascading failures. The applicable entities are always responsible for maintaining the reliability of the bulk power system regardless of the situation. This VRF emphasizes the risk to system performance that results from failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv. Failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv will not, by themselves, lead to instability, separation, or cascading failures. Thus, the requirement meets NERC’s criteria for a Medium VRF.</p>
FERC VRF G1 Discussion	<p>Guideline 1- Consistency w/ Blackout Report: N/A</p>
FERC VRF G2 Discussion	<p>Guideline 2- Consistency within a Reliability Standard: The requirement has no sub-requirements so only one VRF was assigned. The requirement utilizes Parts to identify the items to be included within the requirement. The VRF for this requirement is consistent with others in the standard with regard to relative risk; therefore, there is no conflict.</p>
FERC VRF G3 Discussion	<p>Guideline 3- Consistency among Reliability Standards:</p>

## VRF and VSL Justifications – IRO-009-2, R1

## Proposed VRF – IRO-009-2, R1

	<p>Since the SDT revised the requirement to include a requirement that was already approved along with its associated VRF and VSL, the SDT concludes that there is consistency among existing approved Standards relative to requirements of this nature. The SDT has assigned a Medium VRF, which is consistent with the VRF that this requirement and the requirement that was combined with this requirement were previously assigned in the approved standard.</p>
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VRF and VSL Justifications – IRO-009-2, R1			
Proposed VRF – IRO-009-2, R1			
Proposed VRF	Medium		
FERC VRF G4 Discussion	<p>Failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv could directly affect the electrical state or the capability of the bulk power system. However, violation of this requirement is unlikely to lead to bulk power system instability, separation, or cascading failures. The applicable entities are always responsible for maintaining the reliability of the bulk power system regardless of the situation. This VRF emphasizes the risk to system performance that results from failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv. Failure to have an Operating Process, Procedure, or Plan that identifies actions to prevent exceeding that IROL and failure to have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL’s Tv will not, by themselves, lead to instability, separation, or cascading failures. Thus, the requirement meets NERC’s criteria for a Medium VRF.</p>		
FERC VRF G5 Discussion	<p>Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation: This requirement establishes a single risk-level, and the assigned VRF is consistent with that risk level.</p>		
Proposed VSL – IRO-009-2, R1			
Lower	Moderate	High	Severe
			<p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to</p>

			<p>prevent exceeding that IROL (Part 1.1).</p> <p style="text-align: center;">OR</p> <p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL's Tv. (Part 1.2)</p>
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VRF and VSL Justifications – IRO-009-2, R1	
Proposed VSL – IRO-009-2, R1	
FERC VSL G3 VSL Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.
FERC VSL G4 VSL Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.

VRF and VSL Justifications – IRO-009-2, R2			
Proposed VSL – IRO-009-2, R2			
Lower	Moderate	High	Severe
			No Operating Processes, Procedures, or Plans were initiated that were intended to prevent a predicted IROL exceedance as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.
FERC VSL G3 VSL Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.		
FERC VSL G4 VSL Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.		

VRF and VSL Justifications – IRO-009-2, R3			
Proposed VSL – IRO-009-2, R3			
Lower	Moderate	High	Severe
			Actual system conditions showed that there was an IROL exceedance



VRF and VSL Justifications – IRO-009-2, R3			
Proposed VSL – IRO-009-2, R3			
			in its Reliability Coordinator Area, and that the IROL exceedance was not mitigated within the IROL’s Tv.
FERC VSL G3 VSL Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.		
FERC VSL G4 VSL Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.		

VRF and VSL Justifications – IRO-009-2, R4			
Proposed VSL – IRO-009-2, R4			
Lower	Moderate	High	Severe
			The most limiting IROL or its Tv was not operated to between Reliability Coordinators that are responsible for the Facility (or group of Facilities) associated with the IROL.
FERC VSL G3	The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.		

**VRF and VSL Justifications – IRO-009-2, R4**

**Proposed VSL – IRO-009-2, R4**

<p>VSL Assignment Should Be Consistent with the Corresponding Requirement</p>	
<p>FERC VSL G4 VSL Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL is based on a single violation and not cumulative violations.</p>

## Standards Announcement

### Reminder

## Project 2015-06 Interconnection Reliability Operations and Coordination – IRO-006-East and IRO-009

**Initial Ballots and Non-binding Polls Open through July 8, 2015**

### [Now Available](#)

Initial ballots for Project 2015-06 Interconnection Reliability Operations and Coordination – IRO-006-East and IRO-009 and non-binding polls of the associated Violation Risk Factors and Violation Severity Levels are open through **8 p.m. Eastern, July 8, 2015**.

The standard drafting team's considerations of the responses received from the last comment period are reflected in this draft of the standards.

### **Balloting**

Members of the ballot pools associated with this project may log in and submit their vote for the standards and non-binding polls by clicking [here](#). If you experience any difficulties in using the electronic form, contact [Wendy Muller](#).

### **Next Steps**

The ballot results will be announced and posted on the project page. The drafting team will consider all comments received during the formal comment period and, if needed, make revisions to the standards and post it for additional ballots. If the comments do not show the need for significant revisions, the standards will proceed to a final ballot.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Standard Developer, [Katherine Street](#) (via email), or at (404) 446-9702.

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## Standards Announcement

### Project 2015-06 Interconnection Reliability Operations and Coordination - IRO-006-East and IRO-009

Formal Comment Period Open through July 8, 2015  
Ballot Pools Forming through June 19, 2015

#### [Now Available](#)

A 45-day formal comment period for **IRO-006-EAST — TLR Procedure for the Eastern Interconnection** and **IRO-009 — Reliability Coordinator Actions to Operate Within IROs** is open through **8 p.m. Eastern, Wednesday, July 8, 2015**.

#### Commenting

Use the [electronic form](#) to submit comments on the standards. If you experience any difficulties in using the electronic form, contact [Arielle Cunningham](#). An unofficial Word version of the comment form is posted on the [project page](#).

#### Join the Ballot Pools

Ballot pools are being formed through **8 p.m. Eastern, Friday June 19, 2015**. Registered Ballot Body members may join the ballot pools [here](#).

#### Next Steps

Initial ballots for the standards and non-binding polls of the associated Violation Risk Factors and Violation Severity Levels will be conducted **June 29 through July 8, 2015**.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Standards Developer, [Katherine Street](#) (via email) or by phone at 404-446-9702.

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## Standards Announcement

### Project 2015-06 Interconnection Reliability Operations and Coordination - IRO-006-East and IRO-009

Formal Comment Period Open through July 8, 2015  
Ballot Pools Forming through June 19, 2015

#### [Now Available](#)

A 45-day formal comment period for **IRO-006-EAST — TLR Procedure for the Eastern Interconnection** and **IRO-009 — Reliability Coordinator Actions to Operate Within IROs** is open through **8 p.m. Eastern, Wednesday, July 8, 2015**.

#### Commenting

Use the [electronic form](#) to submit comments on the standards. If you experience any difficulties in using the electronic form, contact [Arielle Cunningham](#). An unofficial Word version of the comment form is posted on the [project page](#).

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Ballot pools are being formed through **8 p.m. Eastern, Friday June 19, 2015**. Registered Ballot Body members may join the ballot pools [here](#).

#### Next Steps

Initial ballots for the standards and non-binding polls of the associated Violation Risk Factors and Violation Severity Levels will be conducted **June 29 through July 8, 2015**.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

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# Standards Announcement

## Project 2015-06 Interconnection Reliability Operations and Coordination

### IRO-006-EAST and IRO-009

#### Initial Ballot and Non-binding Poll Results

#### [Now Available](#)

The initial ballot for **IRO-006-EAST – TLR Procedure for the Eastern Interconnection** concluded at **8 p.m. Eastern, Wednesday, July 8, 2015**. The initial ballot for **IRO-009 – Reliability Coordinator Actions to Operate Within IROs** and non-binding polls of the associated Violation Risk Factors and Violation Severity Levels for IRO-006-EAST and IRO-009 were extended an additional day to reach quorum and concluded at **8 p.m. Eastern, Thursday, July 9, 2015**.

The standards received sufficient affirmative votes for approval. Voting statistics are listed below, and the [Ballot Results](#) page provides a link to the detailed results for the ballot and non-binding poll results.

	Ballot	Non-Binding Poll
	Quorum /Approval	Quorum/Supportive Opinions
IRO-006-EAST	75.23% / 90.35%	84.62% / 91.84%
IRO-009	84.00% / 97.50%	81.86% / 96.46%

#### Next Steps

The drafting team will consider all comments received during the formal comment period and, if needed, make revisions to the standards and post them for an additional ballot. If the comments do not show the need for significant revisions, the standards will proceed to a final ballot.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Standards Developer, [Katherine Street](#) (via email) or at (404) 446-9702.

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# NERC Balloting Tool (/)

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## BALLOT RESULTS

Survey: [View Survey Results \(/SurveyResults/Index/16\)](#)

**Ballot Name:** Project 2015-06 Interconnection Reliability Operations and Coordination IRO-006-East IN 1 ST

**Voting Start Date:** 6/29/2015 12:01:00 AM

**Voting End Date:** 7/8/2015 8:00:00 PM

**Ballot Type:** ST

**Ballot Activity:** IN

**Ballot Series:** 1

**Total # Votes:** 161

**Total Ballot Pool:** 214

**Quorum:** 75.23

**Weighted Segment Value:** 90.35

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	49	1	22	0.88	3	0.12	0	12	12
Segment: 2	8	0.5	3	0.3	2	0.2	0	2	1
Segment: 3	50	1	27	0.9	3	0.1	0	9	11
Segment: 4	18	1	10	1	0	0	0	5	3
Segment: 5	44	1	21	0.955	1	0.045	0	9	13
Segment: 6	35	1	12	0.857	2	0.143	0	10	11
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment:	2	0.2	2	0.2	0	0	0	0	0

9									
Segment: 10	6	0.4	4	0.4	0	0	0	0	2
Totals:	214	6.3	103	5.692	11	0.608	0	47	53

## BALLOT POOL MEMBERS

Show  entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		None	N/A
1	Associated Electric Cooperative, Inc.	Phil Hart		Affirmative	N/A
1	Austin Energy	Thomas Standifur		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Abstain	N/A
1	Beaches Energy Services	Don Cuevas		Affirmative	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		None	N/A
1	Bonneville Power Administration	Donald Watkins		Abstain	N/A
1	Bryan Texas Utilities	John Fontenot		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		None	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	None	N/A



1	Con Ed - Consolidated Edison Co. of New York	Chris de Graffenried		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Larry Nash		Abstain	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	William Smith		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro-Qu?bec TransEnergie	Martin Boisvert		Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane		None	N/A
1	KAMO Electric Cooperative	Walter Kenyon		Affirmative	N/A
1	Lower Colorado River Authority	Teresa Cantwell		None	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Abstain	N/A
1	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy -	Mike ONeil		Affirmative	N/A

	Florida Power and Light Co.				
1	NiSource - Northern Indiana Public Service Co.	Julaine Dyke		None	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	Third-Party Comments
1	PHI - Potomac Electric Power Co.	David Thorne		Affirmative	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Abstain	N/A
1	Portland General Electric Co.	John Walker		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Abstain	N/A
1	Sacramento Municipal Utility District	Tim Kelley	Joe Tarantino	Abstain	N/A
1	Salt River Project	Steven Cobb		None	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Mark Churilla	Bret Galbraith	Abstain	N/A
1	Sho-Me Power Electric Cooperative	Denise Stevens		None	N/A
1	Southern Company - Southern Company	Robert A. Schaffeld		Affirmative	N/A

	Services, Inc.				
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Tennessee Valley Authority	Howell Scott		Negative	Third-Party Comments
1	Tri-State G and T Association, Inc.	Tracy Sliman		None	N/A
1	United Illuminating Co.	Jonathan Appelbaum		Negative	Third-Party Comments
1	Westar Energy	Kevin Giles		Abstain	N/A
1	Western Area Power Administration	Steve Johnson		None	N/A
2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Abstain	N/A
2	Electric Reliability Council of Texas, Inc.	christina bigelow		Abstain	N/A
2	Herb Schrayshuen	Herb Schrayshuen		None	N/A
2	Independent Electricity System Operator	Leonard Kula		Negative	Third-Party Comments
2	ISO New England, Inc.	Michael Puscas	Kathleen Goodman	Affirmative	N/A
2	New York Independent System Operator	Gregory Campoli		Affirmative	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Negative	Third-Party Comments
3	Ameren - Ameren Services	David Jendras		None	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	Lisa Martin		Abstain	N/A
3	Beaches Energy	Steven Lancaster		Affirmative	N/A

	Services				
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik	Darnez Gresham	Affirmative	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City of Green Cove Springs	Mark Schultz		Affirmative	N/A
3	City of Leesburg	Chris Adkins		Affirmative	N/A
3	City of Redding	Elizabeth Hadley		None	N/A
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Kent Kujala		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		None	N/A
3	Exelon	John Bee		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio		Affirmative	N/A
3	Florida Municipal Power Agency	Joe McKinney		Affirmative	N/A
3	Florida Power & Light	Summer Esquerre		None	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted

3	Great River Energy	Brian Glover		None	N/A
3	KAMO Electric Cooperative	Ted Hilmes		Affirmative	N/A
3	Lakeland Electric	Mace Hunter		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Nebraska Public Power District	Tony Eddleman		Affirmative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Ramon Barany		Abstain	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove	John Hare	Negative	Third-Party Comments
3	Omaha Public Power District	Blaine Dinwiddie		None	N/A
3	PHI - Potomac Electric Power Co.	Mark Yerger		Affirmative	N/A
3	Platte River Power Authority	Terry Baker		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Sacramento Municipal Utility District	Rachel Moore	Joe Tarantino	Abstain	N/A

3	Seattle City Light	Dana Wheelock		None	N/A
3	Seminole Electric Cooperative, Inc.	James Frauen		Abstain	N/A
3	Sho-Me Power Electric Cooperative	Jeff Neas		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Abstain	N/A
3	Southern Company - Alabama Power Company	R. Scott Moore		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Abstain	N/A
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		None	N/A
3	Tennessee Valley Authority	Ian Grant		Negative	Third-Party Comments
3	We Energies - Wisconsin Electric Power Marketing	Jim Keller		Affirmative	N/A
3	Westar Energy	Bo Jones		Abstain	N/A
4	Alliant Energy Corporation Services, Inc.	Kenneth Goldsmith		Affirmative	N/A
4	Austin Energy	Tina Garvey		Abstain	N/A
4	City of Clewiston	Lynne Mila		Affirmative	N/A
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		Affirmative	N/A
4	City of Redding	Nick Zettel	Mary Downey	None	N/A
4	City of Winter Park	Mark Brown		Affirmative	N/A
4	DTE Energy - Detroit Edison Company	Daniel Herring		Affirmative	N/A

4	FirstEnergy - Ohio Edison Company	Doug Hohlbaugh		Affirmative	N/A
4	Florida Municipal Power Agency	Carol Chinn		Affirmative	N/A
4	Georgia System Operations Corporation	Guy Andrews		None	N/A
4	Keys Energy Services	Stanley Rzad		Affirmative	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Abstain	N/A
4	Sacramento Municipal Utility District	Michael Ramirez	Joe Tarantino	Abstain	N/A
4	Seattle City Light	Hao Li		Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Abstain	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		None	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		None	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		Affirmative	N/A
5	Austin Energy	Jeanie Doty		None	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Affirmative	N/A
5	Choctaw Generation Limited Partnership,	Rob Watson		Affirmative	N/A

	LLLP				
5	City of Independence, Power and Light Department	Jim Nail		Affirmative	N/A
5	City of Redding	Paul Cummings	Mary Downey	None	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	None	N/A
5	Con Ed - Consolidated Edison Co. of New York	Brian O'Boyle		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Randi Heise		Abstain	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Edison International - Southern California Edison Company	Michael McSpadden		None	N/A
5	Exelon	Vince Catania		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	David Schumann		Affirmative	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	Lakeland Electric	Jim Howard		Affirmative	N/A
5	Lower Colorado River Authority	Dixie Wells		Abstain	N/A
5	Manitoba Hydro	Yuguang Xiao		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego	Scott Miller	None	N/A
5	Nebraska Public Power District	Don Schmit		Affirmative	N/A



5	New York Power Authority	Wayne Sipperly		Affirmative	N/A
5	NextEra Energy	Allen Schriver		None	N/A
5	NRG - NRG Energy, Inc.	Alan Johnson		None	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		None	N/A
5	Oglethorpe Power Corporation	Bernard Johnson		None	N/A
5	Omaha Public Power District	Mahmood Safi		Negative	Third-Party Comments
5	Platte River Power Authority	Tyson Archie		Abstain	N/A
5	PPL Generation LLC	Replacementvoter-Dan Wilson		Affirmative	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Abstain	N/A
5	Puget Sound Energy, Inc.	Lynda Kupfer		None	N/A
5	Sacramento Municipal Utility District	Susan Gill-Zobitz	Joe Tarantino	Abstain	N/A
5	Seattle City Light	Mike Haynes		Abstain	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Abstain	N/A
5	Tallahassee Electric (City of Tallahassee, FL)	Karen Webb		Affirmative	N/A
5	TECO - Tampa Electric Co.	R James Rocha		None	N/A

5	Tennessee Valley Authority	Brandy Spraker		None	N/A
5	WEC Energy Group, Inc.	Linda Horn		Affirmative	N/A
5	Westar Energy	stephanie johnson		Abstain	N/A
6	AEP - AEP Marketing	Edward P Cox		None	N/A
6	Ameren - Ameren Services	Robert Quinlivan		None	N/A
6	Associated Electric Cooperative, Inc.	Brian Ackermann		Affirmative	N/A
6	Austin Energy	Andrew Gallo		Abstain	N/A
6	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		None	N/A
6	Bonneville Power Administration	Brenda Anderson		Abstain	N/A
6	City of Redding	Marvin Briggs	Mary Downey	None	N/A
6	Cleco Corporation	Robert Hirchak	Louis Guidry	None	N/A
6	Colorado Springs Utilities	Shannon Fair		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Louis Slade		Abstain	N/A
6	Exelon	Dave Carlson		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Florida Municipal Power Agency	Richard Montgomery		Affirmative	N/A
6	Florida Municipal Power Pool	Tom Reedy		Affirmative	N/A
6	Great Plains Energy - Kansas City Power and Light Co.	Chris Bridges		None	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A

6	Lower Colorado River Authority	Michael Shaw		None	N/A
6	Manitoba Hydro	Blair Mukanik	Simon Tanapat	Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Abstain	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel	Sing Tay	Negative	Third-Party Comments
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power Authority	Carol Ballantine		None	N/A
6	PPL - Louisville Gas and Electric Co.	OELKER LINN		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Jara		None	N/A
6	Sacramento Municipal Utility District	Diane Clark	Joe Tarantino	Abstain	N/A
6	Seattle City Light	Dennis Sismaet		Abstain	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Abstain	N/A
6	Snohomish County PUD No. 1	Kenn Backholm		Abstain	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	John J. Ciza		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Rick Applegate		Abstain	N/A

6	Tennessee Valley Authority	Marjorie Parsons		Negative	Comments Submitted
6	Westar Energy	Tiffany Lake		Abstain	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		Affirmative	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Florida Reliability Coordinating Council	Peter Heidrich		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		None	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Joe Spencer		None	N/A
10	Southwest Power Pool Regional Entity	Bob Reynolds		Affirmative	N/A

Showing 1 to 214 of 214 entries

# NERC Balloting Tool (/)

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## BALLOT RESULTS

Survey: [View Survey Results \(/SurveyResults/Index/16\)](#)

**Ballot Name:** Project 2015-06 Interconnection Reliability Operations and Coordination IRO-009 IN 1 ST

**Voting Start Date:** 6/29/2015 12:01:00 AM

**Voting End Date:** 7/9/2015 8:00:00 PM

**Ballot Type:** ST

**Ballot Activity:** IN

**Ballot Series:** 1

**Total # Votes:** 189

**Total Ballot Pool:** 225

**Quorum:** 84

**Weighted Segment Value:** 97.5

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	52	1	30	1	0	0	0	14	8
Segment: 2	8	0.7	7	0.7	0	0	0	1	0
Segment: 3	53	1	35	0.946	2	0.054	0	8	8
Segment: 4	18	1	12	0.923	1	0.077	0	3	2
Segment: 5	47	1	28	0.966	1	0.034	0	10	8
Segment: 6	35	1	18	1	0	0	0	9	8
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment:	2	0.2	2	0.2	0	0	0	0	0

9									
Segment: 10	8	0.5	5	0.5	0	0	0	1	2
Totals:	225	6.6	139	6.435	4	0.165	0	46	36

## BALLOT POOL MEMBERS

Show  entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		None	N/A
1	Associated Electric Cooperative, Inc.	Phil Hart		Affirmative	N/A
1	Austin Energy	Thomas Standifur		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Abstain	N/A
1	BC Hydro and Power Authority	Patricia Robertson		Abstain	N/A
1	Beaches Energy Services	Don Cuevas		Affirmative	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Bonneville Power Administration	Donald Watkins		Affirmative	N/A
1	Bryan Texas Utilities	John Fontenot		Affirmative	N/A
1	Central Electric Power Cooperative	Michael Bax		None	N/A

	(Missouri)				
1	Cleco Corporation	John Lindsey	Louis Guidry	Abstain	N/A
1	Con Ed - Consolidated Edison Co. of New York	Chris de Graffenried		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Larry Nash		Abstain	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	William Smith		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro-Qu?bec TransEnergie	Martin Boisvert		Affirmative	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane		Abstain	N/A
1	KAMO Electric Cooperative	Walter Kenyon		Affirmative	N/A
1	Lower Colorado River Authority	Teresa Cantwell		None	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Abstain	N/A
1	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
1	New York Power	Salvatore Spagnolo		Affirmative	N/A

	Authority				
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		Affirmative	N/A
1	NiSource - Northern Indiana Public Service Co.	Julaine Dyke		None	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	PHI - Potomac Electric Power Co.	David Thorne		Affirmative	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Abstain	N/A
1	Portland General Electric Co.	John Walker		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Abstain	N/A
1	Public Utility District No. 2 of Grant County, Washington	Michiko Sell		None	N/A
1	Sacramento Municipal Utility District	Tim Kelley	Joe Tarantino	Abstain	N/A
1	Salt River Project	Steven Cobb		None	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A



1	Seattle City Light	Pawel Krupa		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Mark Churilla	Bret Galbraith	Abstain	N/A
1	Sho-Me Power Electric Cooperative	Denise Stevens		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Robert A. Schaffeld		Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Tennessee Valley Authority	Howell Scott		Affirmative	N/A
1	Tri-State G and T Association, Inc.	Tracy Sliman		Abstain	N/A
1	United Illuminating Co.	Jonathan Appelbaum		Affirmative	N/A
1	Westar Energy	Kevin Giles		Abstain	N/A
1	Western Area Power Administration	Steve Johnson		None	N/A
2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Abstain	N/A
2	Electric Reliability Council of Texas, Inc.	christina bigelow		Affirmative	N/A
2	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Kathleen Goodman	Affirmative	N/A
2	New York Independent System Operator	Gregory Campoli		Affirmative	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power	Charles Yeung		Affirmative	N/A

	Pool, Inc. (RTO)				
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	Lisa Martin		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney		None	N/A
3	BC Hydro and Power Authority	Pat Harrington		Abstain	N/A
3	Beaches Energy Services	Steven Lancaster		Affirmative	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik	Darnez Gresham	Affirmative	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City of Green Cove Springs	Mark Schultz		Affirmative	N/A
3	City of Leesburg	Chris Adkins		Affirmative	N/A
3	City of Redding	Elizabeth Hadley		None	N/A
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Colorado Springs Utilities	Charles Morgan		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Kent Kujala		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A

3	Edison International - Southern California Edison Company	Romel Aquino		None	N/A
3	Exelon	John Bee		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio		Affirmative	N/A
3	Florida Municipal Power Agency	Joe McKinney		Affirmative	N/A
3	Florida Power & Light	Summer Esquerre		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great River Energy	Brian Glover		Affirmative	N/A
3	KAMO Electric Cooperative	Ted Hilmes		Affirmative	N/A
3	Lakeland Electric	Mace Hunter		Affirmative	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Affirmative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Ramon Barany		Abstain	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove	John Hare	Negative	Third-Party Comments
3	Omaha Public Power	Blaine Dinwiddie		None	N/A

	District				
3	PHI - Potomac Electric Power Co.	Mark Yerger		Affirmative	N/A
3	Platte River Power Authority	Terry Baker		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Sacramento Municipal Utility District	Rachel Moore	Joe Tarantino	Abstain	N/A
3	Seattle City Light	Dana Wheelock		None	N/A
3	Seminole Electric Cooperative, Inc.	James Frauen		Abstain	N/A
3	Sho-Me Power Electric Cooperative	Jeff Neas		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Abstain	N/A
3	Southern Company - Alabama Power Company	R. Scott Moore		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		None	N/A
3	Tennessee Valley Authority	Ian Grant		Affirmative	N/A
3	We Energies - Wisconsin Electric Power Marketing	Jim Keller		Affirmative	N/A
3	Westar Energy	Bo Jones		Abstain	N/A

4	Alliant Energy Corporation Services, Inc.	Kenneth Goldsmith		Affirmative	N/A
4	Austin Energy	Tina Garvey		Affirmative	N/A
4	City of Clewiston	Lynne Mila		Affirmative	N/A
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		Affirmative	N/A
4	City of Redding	Nick Zettel	Mary Downey	None	N/A
4	City of Winter Park	Mark Brown		Affirmative	N/A
4	DTE Energy - Detroit Edison Company	Daniel Herring		Affirmative	N/A
4	FirstEnergy - Ohio Edison Company	Doug Hohlbaugh		Affirmative	N/A
4	Florida Municipal Power Agency	Carol Chinn		Affirmative	N/A
4	Georgia System Operations Corporation	Guy Andrews		Negative	Comments Submitted
4	Keys Energy Services	Stanley Rzad		Affirmative	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Abstain	N/A
4	Sacramento Municipal Utility District	Michael Ramirez	Joe Tarantino	Abstain	N/A
4	Seattle City Light	Hao Li		Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		None	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Affirmative	N/A

5	Ameren - Ameren Missouri	Sam Dwyer		None	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		Affirmative	N/A
5	Austin Energy	Jeanie Doty		None	N/A
5	BC Hydro and Power Authority	Clement Ma		Abstain	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Affirmative	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	City of Independence, Power and Light Department	Jim Nail		Affirmative	N/A
5	City of Redding	Paul Cummings	Mary Downey	None	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Abstain	N/A
5	Colorado Springs Utilities	Kaleb Brimhall		None	N/A
5	Con Ed - Consolidated Edison Co. of New York	Brian O'Boyle		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Randi Heise		Abstain	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Edison International - Southern California Edison Company	Michael McSpadden		None	N/A
5	Exelon	Vince Catania		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A

5	Florida Municipal Power Agency	David Schumann		Affirmative	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	Lakeland Electric	Jim Howard		Affirmative	N/A
5	Lower Colorado River Authority	Dixie Wells		Abstain	N/A
5	Luminant - Luminant Generation Company LLC	Rick Terrill		Abstain	N/A
5	Manitoba Hydro	Yuguang Xiao		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego	Scott Miller	Affirmative	N/A
5	Nebraska Public Power District	Don Schmit		Affirmative	N/A
5	New York Power Authority	Wayne Sipperly		Affirmative	N/A
5	NextEra Energy	Allen Schriver		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		Affirmative	N/A
5	Oglethorpe Power Corporation	Bernard Johnson		None	N/A
5	Omaha Public Power District	Mahmood Safi		Negative	Third-Party Comments
5	OTP - Otter Tail Power Company	Cathy Fogale		Affirmative	N/A
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	PPL Generation LLC	Replacementvoter-Dan Wilson		Affirmative	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Affirmative	N/A

5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Abstain	N/A
5	Puget Sound Energy, Inc.	Lynda Kupfer		None	N/A
5	Sacramento Municipal Utility District	Susan Gill-Zobitz	Joe Tarantino	Abstain	N/A
5	Salt River Project	Kevin Nielsen		None	N/A
5	Seattle City Light	Mike Haynes		Abstain	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Affirmative	N/A
5	Tallahassee Electric (City of Tallahassee, FL)	Karen Webb		Affirmative	N/A
5	Tennessee Valley Authority	Brandy Spraker		Affirmative	N/A
5	WEC Energy Group, Inc.	Linda Horn		Affirmative	N/A
5	Westar Energy	stephanie johnson		Abstain	N/A
6	AEP - AEP Marketing	Edward P Cox		None	N/A
6	Ameren - Ameren Services	Robert Quinlivan		None	N/A
6	Associated Electric Cooperative, Inc.	Brian Ackermann		Affirmative	N/A
6	Austin Energy	Andrew Gallo		Affirmative	N/A
6	Bonneville Power Administration	Brenda Anderson		Affirmative	N/A
6	City of Redding	Marvin Briggs	Mary Downey	None	N/A
6	Cleco Corporation	Robert Hirchak	Louis Guidry	Abstain	N/A
6	Colorado Springs Utilities	Shannon Fair		None	N/A



6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Louis Slade		Abstain	N/A
6	Exelon	Dave Carlson		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Florida Municipal Power Agency	Richard Montgomery		Affirmative	N/A
6	Florida Municipal Power Pool	Tom Reedy		Affirmative	N/A
6	Great Plains Energy - Kansas City Power and Light Co.	Chris Bridges		None	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Lower Colorado River Authority	Michael Shaw		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik	Simon Tanapat	Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Abstain	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel	Sing Tay	Affirmative	N/A
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power Authority	Carol Ballantine		None	N/A
6	PPL - Louisville Gas and Electric Co.	OELKER LINN		Affirmative	N/A
6	PSEG - PSEG	Stephen York		Affirmative	N/A

	Energy Resources and Trade LLC				
6	Sacramento Municipal Utility District	Diane Clark	Joe Tarantino	Abstain	N/A
6	Salt River Project	William Abraham		None	N/A
6	Seattle City Light	Dennis Sismaet		Abstain	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Abstain	N/A
6	Snohomish County PUD No. 1	Kenn Backholm		Abstain	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	John J. Ciza		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Rick Applegate		Affirmative	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Affirmative	N/A
6	Westar Energy	Tiffany Lake		Abstain	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		Affirmative	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Florida Reliability Coordinating Council	Peter Heidrich		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		None	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A

10	SERC Reliability Corporation	Joe Spencer		Abstain	N/A
10	Southwest Power Pool Regional Entity	Bob Reynolds		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		None	N/A

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## BALLOT RESULTS

**Ballot Name:** Project 2015-06 Interconnection Reliability Operations and Coordination IRO-006-East Non-binding Poll IN 1 NB

**Voting Start Date:** 6/29/2015 12:01:00 AM

**Voting End Date:** 7/9/2015 8:00:00 PM

**Ballot Type:** NB

**Ballot Activity:** IN

**Ballot Series:** 1

**Total # Votes:** 165

**Total Ballot Pool:** 195

**Quorum:** 84.62

**Weighted Segment Value:** 91.84

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	47	1	20	0.952	1	0.048	0	19	7
Segment: 2	7	0.3	2	0.2	1	0.1	0	4	0
Segment: 3	47	1	24	0.923	2	0.077	0	14	7
Segment: 4	15	1	9	0.9	1	0.1	0	4	1
Segment: 5	39	1	18	0.9	2	0.1	0	11	8
Segment: 6	30	1	9	0.9	1	0.1	0	14	6
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment:	2	0.2	2	0.2	0	0	0	0	0

9									
Segment: 10	6	0.4	4	0.4	0	0	0	1	1
Totals:	195	6.1	90	5.575	8	0.525	0	67	30

## BALLOT POOL MEMBERS

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Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		None	N/A
1	Associated Electric Cooperative, Inc.	Phil Hart		Affirmative	N/A
1	Austin Energy	Thomas Standifur		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Abstain	N/A
1	Beaches Energy Services	Don Cuevas		Affirmative	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Bonneville Power Administration	Donald Watkins		Abstain	N/A
1	Bryan Texas Utilities	John Fontenot		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		None	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	Abstain	N/A

1	Con Ed - Consolidated Edison Co. of New York	Chris de Graffenried		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Larry Nash		Abstain	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	William Smith		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro-Qu?bec TransEnergie	Martin Boisvert		Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane		Abstain	N/A
1	KAMO Electric Cooperative	Walter Kenyon		Affirmative	N/A
1	Lower Colorado River Authority	Teresa Cantwell		None	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Abstain	N/A
1	Nebraska Public Power District	Jamison Cawley		Abstain	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike ONeil		Abstain	N/A

1	NiSource - Northern Indiana Public Service Co.	Julaine Dyke		None	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	Comments Submitted
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Abstain	N/A
1	Portland General Electric Co.	John Walker		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Abstain	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Abstain	N/A
1	Sacramento Municipal Utility District	Tim Kelley	Joe Tarantino	Abstain	N/A
1	Salt River Project	Steven Cobb		None	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Mark Churilla	Bret Galbraith	Abstain	N/A
1	Sho-Me Power Electric Cooperative	Denise Stevens		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Robert A. Schaffeld		Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A

1	Tennessee Valley Authority	Howell Scott		Abstain	N/A
1	Tri-State G and T Association, Inc.	Tracy Sliman		Abstain	N/A
1	United Illuminating Co.	Jonathan Appelbaum		Affirmative	N/A
1	Westar Energy	Kevin Giles		Abstain	N/A
1	Western Area Power Administration	Steve Johnson		None	N/A
2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Abstain	N/A
2	Electric Reliability Council of Texas, Inc.	christina bigelow		Abstain	N/A
2	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Negative	Comments Submitted
2	New York Independent System Operator	Gregory Campoli		Abstain	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Abstain	N/A
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	Lisa Martin		Abstain	N/A
3	Beaches Energy Services	Steven Lancaster		Affirmative	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik	Darnez Gresham	Affirmative	N/A
3	Bonneville Power	Rebecca Berdahl		Affirmative	N/A



	Administration				
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City of Green Cove Springs	Mark Schultz		Affirmative	N/A
3	City of Leesburg	Chris Adkins		Affirmative	N/A
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Kent Kujala		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		None	N/A
3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio		Affirmative	N/A
3	Florida Municipal Power Agency	Joe McKinney		Affirmative	N/A
3	Florida Power & Light	Summer Esquerre		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great River Energy	Brian Glover		Affirmative	N/A
3	KAMO Electric Cooperative	Ted Hilmes		Affirmative	N/A
3	Lakeland Electric	Mace Hunter		Affirmative	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	Affirmative	N/A

3	Nebraska Public Power District	Tony Eddleman		Abstain	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Ramon Barany		Abstain	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove	John Hare	Negative	Comments Submitted
3	Omaha Public Power District	Blaine Dinwiddie		None	N/A
3	Platte River Power Authority	Terry Baker		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		None	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Abstain	N/A
3	Sacramento Municipal Utility District	Rachel Moore	Joe Tarantino	Abstain	N/A
3	Seattle City Light	Dana Wheelock		None	N/A
3	Seminole Electric Cooperative, Inc.	James Frauen		Abstain	N/A
3	Sho-Me Power Electric Cooperative	Jeff Neas		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Abstain	N/A
3	Southern Company - Alabama Power Company	R. Scott Moore		Affirmative	N/A
3	Tacoma Public	Marc Donaldson		Abstain	N/A

	Utilities (Tacoma, WA)				
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Abstain	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		None	N/A
3	Tennessee Valley Authority	Ian Grant		Abstain	N/A
3	We Energies - Wisconsin Electric Power Marketing	Jim Keller		None	N/A
3	Westar Energy	Bo Jones		Abstain	N/A
4	Alliant Energy Corporation Services, Inc.	Kenneth Goldsmith		Affirmative	N/A
4	Austin Energy	Tina Garvey		Abstain	N/A
4	City of Clewiston	Lynne Mila		Affirmative	N/A
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		Affirmative	N/A
4	City of Winter Park	Mark Brown		Affirmative	N/A
4	DTE Energy - Detroit Edison Company	Daniel Herring		Affirmative	N/A
4	FirstEnergy - Ohio Edison Company	Doug Hohlbaugh		Affirmative	N/A
4	Florida Municipal Power Agency	Carol Chinn		Affirmative	N/A
4	Georgia System Operations Corporation	Guy Andrews		Negative	Comments Submitted
4	Keys Energy Services	Stanley Rzad		Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Abstain	N/A
4	Sacramento	Michael Ramirez	Joe Tarantino	Abstain	N/A

	Municipal Utility District				
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Abstain	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		None	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		None	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		Affirmative	N/A
5	Austin Energy	Jeanie Doty		None	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Affirmative	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	City of Independence, Power and Light Department	Jim Nail		Affirmative	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Abstain	N/A
5	Con Ed - Consolidated Edison Co. of New York	Brian O'Boyle		Affirmative	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Edison International - Southern California Edison Company	Michael McSpadden		None	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A

5	Florida Municipal Power Agency	David Schumann		Affirmative	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	Lakeland Electric	Jim Howard		Affirmative	N/A
5	Lower Colorado River Authority	Dixie Wells		Abstain	N/A
5	Manitoba Hydro	Yuguang Xiao		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego	Scott Miller	Affirmative	N/A
5	Nebraska Public Power District	Don Schmit		Abstain	N/A
5	New York Power Authority	Wayne Sipperly		Affirmative	N/A
5	NextEra Energy	Allen Schriver		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		Negative	Comments Submitted
5	Oglethorpe Power Corporation	Bernard Johnson		None	N/A
5	Omaha Public Power District	Mahmood Safi		Negative	Comments Submitted
5	Platte River Power Authority	Tyson Archie		None	N/A
5	PPL Generation LLC	Replacementvoter-Dan Wilson		None	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Abstain	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Abstain	N/A
5	Puget Sound Energy, Inc.	Lynda Kupfer		None	N/A
5	Sacramento Municipal Utility District	Susan Gill-Zobitz	Joe Tarantino	Abstain	N/A

5	Seattle City Light	Mike Haynes		Abstain	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Abstain	N/A
5	Tallahassee Electric (City of Tallahassee, FL)	Karen Webb		Affirmative	N/A
5	Tennessee Valley Authority	Brandy Spraker		Abstain	N/A
5	WEC Energy Group, Inc.	Linda Horn		None	N/A
5	Westar Energy	stephanie johnson		Abstain	N/A
6	AEP - AEP Marketing	Edward P Cox		None	N/A
6	Ameren - Ameren Services	Robert Quinlivan		None	N/A
6	Associated Electric Cooperative, Inc.	Brian Ackermann		Affirmative	N/A
6	Austin Energy	Andrew Gallo		Abstain	N/A
6	Bonneville Power Administration	Brenda Anderson		Abstain	N/A
6	Cleco Corporation	Robert Hirschak	Louis Guidry	Abstain	N/A
6	Colorado Springs Utilities	Shannon Fair		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Florida Municipal Power Agency	Richard Montgomery		Affirmative	N/A
6	Florida Municipal Power Pool	Tom Reedy		Affirmative	N/A

6	Great Plains Energy - Kansas City Power and Light Co.	Chris Bridges		None	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Lower Colorado River Authority	Michael Shaw		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik	Simon Tanapat	Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Abstain	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Abstain	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel	Sing Tay	Negative	Comments Submitted
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power Authority	Carol Ballantine		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Stephen York		Abstain	N/A
6	Sacramento Municipal Utility District	Diane Clark	Joe Tarantino	Abstain	N/A
6	Seattle City Light	Dennis Sismaet		Abstain	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Abstain	N/A
6	Snohomish County PUD No. 1	Kenn Backholm		Abstain	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	John J. Ciza		Affirmative	N/A
6	Tacoma Public	Rick Applegate		Abstain	N/A

	Utilities (Tacoma, WA)				
6	Tennessee Valley Authority	Marjorie Parsons		Abstain	N/A
6	Westar Energy	Tiffany Lake		Abstain	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		Affirmative	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Florida Reliability Coordinating Council	Peter Heidrich		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		None	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Joe Spencer		Abstain	N/A
10	Southwest Power Pool Regional Entity	Bob Reynolds		Affirmative	N/A

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## BALLOT RESULTS

**Ballot Name:** Project 2015-06 Interconnection Reliability Operations and Coordination IRO-009 Non-Binding Poll IN 1 NB

**Voting Start Date:** 6/29/2015 12:01:00 AM

**Voting End Date:** 7/9/2015 8:00:00 PM

**Ballot Type:** NB

**Ballot Activity:** IN

**Ballot Series:** 1

**Total # Votes:** 167

**Total Ballot Pool:** 204

**Quorum:** 81.86

**Weighted Segment Value:** 96.46

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	48	1	23	0.958	1	0.042	0	16	8
Segment: 2	7	0.5	5	0.5	0	0	0	2	0
Segment: 3	49	1	28	0.966	1	0.034	0	11	9
Segment: 4	15	1	11	0.917	1	0.083	0	2	1
Segment: 5	42	1	20	0.952	1	0.048	0	11	10
Segment: 6	31	1	13	1	0	0	0	11	7
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment: 9	2	0.2	2	0.2	0	0	0	0	0

Segment: 10	8	0.5	5	0.5	0	0	0	1	2
Totals:	204	6.4	109	6.193	4	0.207	0	54	37

## BALLOT POOL MEMBERS

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Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		None	N/A
1	Associated Electric Cooperative, Inc.	Phil Hart		Affirmative	N/A
1	Austin Energy	Thomas Standifur		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Abstain	N/A
1	Beaches Energy Services	Don Cuevas		Affirmative	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Bonneville Power Administration	Donald Watkins		Affirmative	N/A
1	Bryan Texas Utilities	John Fontenot		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		None	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	Abstain	N/A

1	Con Ed - Consolidated Edison Co. of New York	Chris de Graffenried		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Larry Nash		Abstain	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	William Smith		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro-Qu?bec TransEnergie	Martin Boisvert		Affirmative	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane		Abstain	N/A
1	KAMO Electric Cooperative	Walter Kenyon		Affirmative	N/A
1	Lower Colorado River Authority	Teresa Cantwell		None	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Abstain	N/A
1	Nebraska Public Power District	Jamison Cawley		Abstain	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike ONeil		Affirmative	N/A

1	NiSource - Northern Indiana Public Service Co.	Julaine Dyke		None	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Abstain	N/A
1	Portland General Electric Co.	John Walker		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Abstain	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Abstain	N/A
1	Public Utility District No. 2 of Grant County, Washington	Michiko Sell		None	N/A
1	Sacramento Municipal Utility District	Tim Kelley	Joe Tarantino	Abstain	N/A
1	Salt River Project	Steven Cobb		None	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Mark Churilla	Bret Galbraith	Abstain	N/A
1	Sho-Me Power Electric Cooperative	Denise Stevens		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Robert A. Schaffeld		Affirmative	N/A

1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Tennessee Valley Authority	Howell Scott		Abstain	N/A
1	Tri-State G and T Association, Inc.	Tracy Sliman		Abstain	N/A
1	United Illuminating Co.	Jonathan Appelbaum		Negative	Comments Submitted
1	Westar Energy	Kevin Giles		Abstain	N/A
1	Western Area Power Administration	Steve Johnson		None	N/A
2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Abstain	N/A
2	Electric Reliability Council of Texas, Inc.	christina bigelow		Affirmative	N/A
2	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	New York Independent System Operator	Gregory Campoli		Abstain	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	Lisa Martin		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney		None	N/A
3	Beaches Energy Services	Steven Lancaster		Affirmative	N/A

3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik	Darnez Gresham	Affirmative	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City of Green Cove Springs	Mark Schultz		Affirmative	N/A
3	City of Leesburg	Chris Adkins		Affirmative	N/A
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Colorado Springs Utilities	Charles Morgan		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Kent Kujala		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		None	N/A
3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio		Affirmative	N/A
3	Florida Municipal Power Agency	Joe McKinney		Affirmative	N/A
3	Florida Power & Light	Summer Esquerre		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great River Energy	Brian Glover		Affirmative	N/A
3	KAMO Electric	Ted Hilmes		Affirmative	N/A

	Cooperative				
3	Lakeland Electric	Mace Hunter		Affirmative	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Abstain	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Ramon Barany		Abstain	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove	John Hare	Affirmative	N/A
3	Omaha Public Power District	Blaine Dinwiddie		None	N/A
3	Platte River Power Authority	Terry Baker		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		None	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Abstain	N/A
3	Sacramento Municipal Utility District	Rachel Moore	Joe Tarantino	Abstain	N/A
3	Seattle City Light	Dana Wheelock		None	N/A
3	Seminole Electric Cooperative, Inc.	James Frauen		Abstain	N/A
3	Sho-Me Power	Jeff Neas		Affirmative	N/A

	Electric Cooperative				
3	Snohomish County PUD No. 1	Mark Oens		Abstain	N/A
3	Southern Company - Alabama Power Company	R. Scott Moore		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		None	N/A
3	Tennessee Valley Authority	Ian Grant		Abstain	N/A
3	We Energies - Wisconsin Electric Power Marketing	Jim Keller		None	N/A
3	Westar Energy	Bo Jones		Abstain	N/A
4	Alliant Energy Corporation Services, Inc.	Kenneth Goldsmith		Affirmative	N/A
4	Austin Energy	Tina Garvey		Affirmative	N/A
4	City of Clewiston	Lynne Mila		Affirmative	N/A
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		Affirmative	N/A
4	City of Winter Park	Mark Brown		Affirmative	N/A
4	DTE Energy - Detroit Edison Company	Daniel Herring		Affirmative	N/A
4	FirstEnergy - Ohio Edison Company	Doug Hohlbaugh		Affirmative	N/A
4	Florida Municipal Power Agency	Carol Chinn		Affirmative	N/A
4	Georgia System Operations	Guy Andrews		Negative	Comments Submitted



	Corporation				
4	Keys Energy Services	Stanley Rzasd		Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Abstain	N/A
4	Sacramento Municipal Utility District	Michael Ramirez	Joe Tarantino	Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		None	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		None	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		Affirmative	N/A
5	Austin Energy	Jeanie Doty		None	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Affirmative	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	City of Independence, Power and Light Department	Jim Nail		Affirmative	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Abstain	N/A
5	Colorado Springs Utilities	Kaleb Brimhall		None	N/A
5	Con Ed - Consolidated Edison Co. of New York	Brian O'Boyle		Affirmative	N/A

5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Edison International - Southern California Edison Company	Michael McSpadden		None	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	David Schumann		Affirmative	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	Lakeland Electric	Jim Howard		Affirmative	N/A
5	Lower Colorado River Authority	Dixie Wells		Abstain	N/A
5	Luminant - Luminant Generation Company LLC	Rick Terrill		Abstain	N/A
5	Manitoba Hydro	Yuguang Xiao		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego	Scott Miller	Affirmative	N/A
5	Nebraska Public Power District	Don Schmit		Abstain	N/A
5	New York Power Authority	Wayne Sipperly		Affirmative	N/A
5	NextEra Energy	Allen Schriver		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		Affirmative	N/A
5	Oglethorpe Power Corporation	Bernard Johnson		None	N/A
5	Omaha Public Power District	Mahmood Safi		Negative	Comments Submitted
5	Platte River Power Authority	Tyson Archie		None	N/A

5	PPL Generation LLC	Replacementvoter-Dan Wilson		None	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Abstain	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Abstain	N/A
5	Puget Sound Energy, Inc.	Lynda Kupfer		None	N/A
5	Sacramento Municipal Utility District	Susan Gill-Zobitz	Joe Tarantino	Abstain	N/A
5	Salt River Project	Kevin Nielsen		None	N/A
5	Seattle City Light	Mike Haynes		Abstain	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Affirmative	N/A
5	Tallahassee Electric (City of Tallahassee, FL)	Karen Webb		Affirmative	N/A
5	Tennessee Valley Authority	Brandy Spraker		Abstain	N/A
5	WEC Energy Group, Inc.	Linda Horn		None	N/A
5	Westar Energy	stephanie johnson		Abstain	N/A
6	AEP - AEP Marketing	Edward P Cox		None	N/A
6	Ameren - Ameren Services	Robert Quinlivan		None	N/A
6	Associated Electric Cooperative, Inc.	Brian Ackermann		Affirmative	N/A
6	Austin Energy	Andrew Gallo		Affirmative	N/A
6	Bonneville Power Administration	Brenda Anderson		Affirmative	N/A

6	Cleco Corporation	Robert Hirschak	Louis Guidry	Abstain	N/A
6	Colorado Springs Utilities	Shannon Fair		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Florida Municipal Power Agency	Richard Montgomery		Affirmative	N/A
6	Florida Municipal Power Pool	Tom Reedy		Affirmative	N/A
6	Great Plains Energy - Kansas City Power and Light Co.	Chris Bridges		None	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Lower Colorado River Authority	Michael Shaw		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik	Simon Tanapat	Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Abstain	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Abstain	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel	Sing Tay	Affirmative	N/A
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power Authority	Carol Ballantine		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Stephen York		Abstain	N/A

6	Sacramento Municipal Utility District	Diane Clark	Joe Tarantino	Abstain	N/A
6	Salt River Project	William Abraham		None	N/A
6	Seattle City Light	Dennis Sismaet		Abstain	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Abstain	N/A
6	Snohomish County PUD No. 1	Kenn Backholm		Abstain	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	John J. Ciza		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Rick Applegate		Affirmative	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Abstain	N/A
6	Westar Energy	Tiffany Lake		Abstain	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		Affirmative	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Florida Reliability Coordinating Council	Peter Heidrich		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		None	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Joe Spencer		Abstain	N/A

10	Southwest Power Pool Regional Entity	Bob Reynolds		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		None	N/A

Showing 1 to 204 of 204 entries

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# Survey Report

## Survey Details

**Name** 2015-06 IRO | IRO-006-East & IRO-009

**Description**

**Start Date** 5/21/2015

**End Date** 7/9/2015

### Associated Ballots

Project 2015-06 Interconnection Reliability Operations and Coordination IRO-006-East IN 1 ST

Project 2015-06 Interconnection Reliability Operations and Coordination IRO-009 IN 1 ST

## Survey Questions

**1. The IRO SDT recommends retiring IRO-006-EAST-1 Requirement R1. Do you agree with the retirement of IRO-006-EAST-1 Requirement R1? If not, please explain specifically what aspects of the retirement you disagree with.**

Yes

No

**2. The IRO SDT recommends revising IRO-006-EAST-1 Requirement R2. Do you agree with the proposed revisions to IRO-006-EAST-1 Requirement R2? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

Yes

No

**3. The IRO SDT recommends retiring IRO-006-EAST-1 Requirement R3. Do you agree with the retirement of IRO-006-EAST-1 Requirement R3? If not, please explain specifically what aspects of the retirement you disagree with.**

Yes

No

**4. The IRO SDT recommends revising IRO-006-EAST-1 Requirement R4. Do you agree with the proposed revisions to IRO-006-EAST-1 Requirement R4? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

Yes

No



**5. The IRO SDT recommends revising IRO-009-1 Requirement R1 to include elements of IRO-009-1 Requirement R2. Do you agree with the proposed revisions to IRO-009-1 Requirement R1? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

Yes

No

**6. The IRO SDT recommends revising IRO-009-1 Requirement R3. Do you agree with the proposed revisions to IRO-009-1 Requirement R3? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

Yes

No

**7. The IRO SDT recommends revising IRO-009-1 Requirement R4. Do you agree with the proposed revisions to IRO-009-1 Requirement R4? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

Yes

No

**8. The IRO SDT recommends revising IRO-009-1 Requirement R5. Do you agree with the proposed revisions to IRO-009-1 Requirement R5? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

Yes

No

9. *If you have any other comments that you have not already mentioned above, please provide them here:*

---

## Responses By Question

1. *The IRO SDT recommends retiring IRO-006-EAST-1 Requirement R1. Do you agree with the retirement of IRO-006-EAST-1 Requirement R1? If not, please explain specifically what aspects of the retirement you disagree with.*

**Robert Hirschak - Cleco Corporation - 6 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

Likes: 0

Dislikes: 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 1 Hydro-Qu?bec TransEnergie, 1, Boisvert Martin

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Anthony Jablonski - ReliabilityFirst - 10 -**

Selected Answer: Yes

**Answer Comment:**

ReliabilityFirst agrees that the recommended changes in the IRO-006-East draft standard are consistent with the five year review team recommendations and the overall quality of the language in the standard is improved.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Chris Scanlon - Exelon - 1 -**

[Group Information](#)

Group Name: Exelon Utilities

Group Member Name	Entity	Region	Segments
Chris Scanlon	BGE, ComEd, PECO TO's	RFC	1
John Bee	BGE, ComEd, PECO LSE's	RFC	3

**Voter Information**

Voter	Segment
Chris Scanlon	1
Entity	Region(s)
Exelon	

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

Likes: 0

Dislikes: 0

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Group Information**

Group Name: MRO-NERC Standards Review Forum (NSRF)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6

Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Emily Rousseau	1,2,3,4,5,6
<b>Entity</b>	<b>Region(s)</b>
MRO	MRO

Selected Answer: Yes

**Answer Comment:**



**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Martin Boisvert - Hydro-Qu?bec TransEnergie - 1 -**

Selected Answer:

**Answer Comment:**  
N/A

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc.,  
2**

**Group Information**

Group Name: Standards Review Committee (SRC)

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2
Greg Campoli	NYISO	NPCC	2

Matthew Goldberg	ISO-NE	NPCC	2
Christina Bigelow	ERCOT	TRE	2
Terry Bilke	MISO	MRO	2
Al Dicaprio	PJM	RFC	2

**Voter Information**

**Voter** **Segment**

Kathleen Goodman 2

**Entity** **Region(s)**

ISO New England, Inc. NPCC

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jared Shakespeare - Peak Reliability - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Group Information**

Group Name:       Manage Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
John Ciza	Southern Company Generation and Energy Marketing	SERC	6
Bob Schaffeld	Southern Company Services, Inc.	SERC	1
Bill Shultz	Southern Company Generation	SERC	5
Scott Moore	Alabama Power Company	SERC	3
Rob Watson	Choctaw Generation Limited Partnership, LLLP	SERC	5

**Voter Information**

<b>Voter</b>	<b>Segment</b>
R. Scott Moore	3

<b>Entity</b>	<b>Region(s)</b>
Southern Company - Alabama Power Company	

Selected Answer:       Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

Likes: 0

Dislikes: 0

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Group Information**

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

**Voter Information**

Voter	Segment
Colby Bellville	1,3,5,6

  

Entity	Region(s)
Duke Energy	FRCC,SERC,RFC



Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer:

**Answer Comment:**  
N/A for Texas RE

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

## Group Information

Group Name: NPCC--Project 2015-06

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Robert Pellegrini	The United Illuminating Company	NPCC	1
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5

Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Kathleen Goodman	ISO - New England	NPCC	2
Guy Zito	Northeast Power Coordinating Council	NPCC	10

### Voter Information

<b>Voter</b>	<b>Segment</b>
Lee Pedowicz	10
<b>Entity</b>	<b>Region(s)</b>
Northeast Power Coordinating Council	NPCC

Selected Answer: No

**Answer Comment:**

The SDT should reconsider retiring R1 because the requirement was added to the standard and worded in such a way to address a FERC directive in Order 693 which asked NERC to clearly include a requirement in the standard that TLR is not an effective means for mitigating IROL violation.

**Document Name:**

Likes: 0

Dislikes: 0

**Leonard Kula - Independent Electricity System Operator - 2 -**

Selected Answer: No

**Answer Comment:**

**We reiterate the following comments which we submitted in 2013 when the 5-Year Review Team's recommendations were posted for comment, and in April 2015 when the revised recommendations were posted for comment:**

**We urge the SDT to reconsider retiring R1 since this requirement was added to the standard and worded that way to address a FERC directive in Order 693 which asked NERC to clearly include a requirement in the standard that TLR is not an effective means for mitigating IROL violation.**

**Part excerpt from the Order, Para. 964:**

**[Accordingly, in addition to approving the Reliability Standard, the Commission directs the ERO to develop a modification to IRO-006-3 through the Reliability Standards development process that (1) includes a clear warning that the TLR procedure is an inappropriate and ineffective tool to mitigate actual IROL violations and (2) identifies in a Requirement the available alternatives to mitigate an IROL violation other than use of the TLR procedure.]**

**The language “...prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)” is meant to convey the idea that TLR alone cannot and shall not be used to mitigate IROL exceedances, but can be used together with but not prior to other (presumably more effective) means. The other means listed in R1 are to provide the list of measures that should be applied before or in conjunction with TRL. Alternatively, they can be referenced by quoting the other standards which contain these measures.**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

Selected Answer: No

**Answer Comment:** TVA basis for selecting "No" is provided in response to question 9.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

Selected Answer:

**Answer Comment:** N/A

**Document Name:**

Likes: 0

Dislikes: 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
James Nail	City of Independence, Missouri	SPP	3,5
Jason Smith	Southwest Power Pool Inc	SPP	2
Mahmood Safi	Omaha Public Power District	MRO	1,3,5

**Voter Information**

**Voter** **Segment**

Shannon Mickens 2

**Entity** **Region(s)**

Southwest Power Pool, Inc. (RTO) SPP

Selected Answer: No

**Answer Comment:**

We agree with the SDT that if Requirement R1 of IRO-006-East-1 presents a redundancy issue (Paragraph 81) in reference to IRO-008-1 Requirement R3, and IRO-009-1 Requirement R4 and it should be retired. However, in your background information of the comment form (second paragraph last sentence), you mentioned that project 2014-03 (Revisions to TOP and IRO Standards) retired the IRO-008-1 standard. We would suggest to the IRO-SDT the removal of this phrase (IRO-008-1 and its Requirement R3 redundancy issues) from your **Rationale for recommendation to retire Requirement R1**. As we reviewed the NERC site it shows that this standard is **subject to enforcement**, we have a concern that this information presents an inaccuracy and would ask the drafting team to provide some clarity on the status of the IRO-008-1.

**Document Name:**

Likes: 0

Dislikes: 0

**Scott McGough - Georgia System Operations Corporation - 3 -**

Selected Answer: Yes

**Answer Comment:**



**Document Name:**

**Likes:** 0

**Dislikes:** 0

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

**Selected Answer:** No

**Answer Comment:**

ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**2. The IRO SDT recommends revising IRO-006-EAST-1 Requirement R2. Do you agree with the proposed revisions to IRO-006-EAST-1 Requirement R2? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

**Robert Hirschak - Cleco Corporation - 6 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 1 Hydro-Qu?bec TransEnergie, 1, Boisvert Martin

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Anthony Jablonski - ReliabilityFirst - 10 -**

Selected Answer: No

**Answer Comment:**

ReliabilityFirst does offer a consideration regarding IRO-006-EAST-2 R2 to clearly identify which entity the 15 minutes apply to. As written, it can be left to interpretation whether the 15 minute timeframe applies to the Sink Balancing Authority or Reliability Coordinator. ReliabilityFirst offers the following

modified language for consideration:

“Each Reliability Coordinator shall instruct the Sink Balancing Authority (for Sink Balancing Authorities that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure) to implement the congestion management actions within 15 minutes of receiving the request from the issuing Reliability Coordinator...”

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Chris Scanlon - Exelon - 1 -**

**Group Information**

Group Name: Exelon Utilities

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Chris Scanlon	BGE, ComEd, PECO TO's	RFC	1
John Bee	BGE, ComEd, PECO LSE's	RFC	3

**Voter Information**

**Voter** **Segment**

Chris Scanlon

1

**Entity**

**Region(s)**

Exelon

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

Dislikes: 0

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Group Information**

Group Name: MRO-NERC Standards Review Forum (NSRF)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6

Tony Eddleman	Nebraska Public Power District	MRO	1,3,5
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**Voter Information**

**Voter** **Segment**

Emily Rousseau 1,2,3,4,5,6

**Entity** **Region(s)**

MRO MRO

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

Selected Answer: Yes



**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Martin Boisvert - Hydro-Qu?bec TransEnergie - 1 -**

Selected Answer:

**Answer Comment:** N/A

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc.,  
2**

**Group Information**

Group Name: Standards Review Committee (SRC)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2
Greg Campoli	NYISO	NPCC	2
Matthew Goldberg	ISO-NE	NPCC	2
Christina Bigelow	ERCOT	TRE	2
Terry Bilke	MISO	MRO	2
Al Dicaprio	PJM	RFC	2

**Voter Information**

**Voter** **Segment**

Kathleen Goodman

2

**Entity**

**Region(s)**

ISO New England, Inc.

NPCC

Selected Answer: No

**Answer Comment:**

The SRC is concerned with the retirement of Requirement R1, as it pertains to a directive in Order 693:

"(1) includes a clear warning that a TLR procedure is an inappropriate and ineffective tool to mitigate IROL violations; (2) identifies in a Requirement the available alternatives to use of the TLR procedure to mitigate an IROL violation and;....."

The SRC respectfully suggests that SDT vet the retirement of Requirement R1 with appropriate ERO and FERC liaisons to ensure that its removal would not result in reissuance of a similar directive. An alternative approach would be to revise Requirement R2 to provide:

Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance shall: (1) prior to or concurrent with such initiation, evaluate and initiate alternatives to address such exceedance, (2) identify the TLR level and the congestion management actions to be implemented, and (3) update this information at least every clock hour (except TLR-1) after initiation up to and including the hour when the TLR level has been identified as TLR Level 0

**Document Name:**

Likes: 0

**Dislikes:** 0

**Jared Shakespeare - Peak Reliability - 1 -**

Selected Answer: No

**Answer Comment:**

“(up to and including load shedding)” should be “(up to and including load shedding for IROL exceedances)”. Current wording could suggest that load shedding is a mandatory action to prevent an IROL exceedance. Load shedding should be an option at the system operator's disposal to prevent load shedding, but it should not be required.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

Likes: 0

Dislikes: 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Group Information**

Group Name: Manage Group

Group Member Name	Entity	Region	Segments
John Ciza	Southern Company Generation and Energy Marketing	SERC	6
Bob Schaffeld	Southern Company Services, Inc.	SERC	1
Bill Shultz	Southern Company Generation	SERC	5
Scott Moore	Alabama Power Company	SERC	3
Rob Watson	Choctaw Generation Limited Partnership, LLLP	SERC	5

**Voter Information**

Voter	Segment
R. Scott Moore	3

**Entity**

**Region(s)**

Southern Company - Alabama Power Company

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Group Information**

Group Name: Duke Energy

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

**Voter Information**



**Voter**

**Segment**

Colby Bellville

1,3,5,6

**Entity**

**Region(s)**

Duke Energy

FRCC,SERC,RFC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer:

**Answer Comment:**

N/A for Texas RE

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Group Information**

Group Name: NPCC--Project 2015-06

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6

Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Robert Pellegrini	The United Illuminating Company	NPCC	1
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Kathleen Goodman	ISO - New England	NPCC	2
Guy Zito	Northeast Power Coordinating Council	NPCC	10

### Voter Information

### Segment

**Voter**

Lee Pedowicz

10

**Entity**

**Region(s)**

Northeast Power Coordinating Council

NPCC

Selected Answer: No

**Answer Comment:**

Where is the RC to update the TLR implementation information? The update of "at least every clock hour" is the minimum. The implementation information should be updated as system conditions change. Suggest changing the wording to:

"...and shall update this information as changes in system warrant deliberate changes to the in force implemented TLR procedure, and at least hourly..."

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Leonard Kula - Independent Electricity System Operator - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

Selected Answer: No

**Answer Comment:**

TVA basis for selecting "No" is provided in response to question 9.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

Selected Answer:

**Answer Comment:**  
N/A

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
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Shannon Mickens	Southwest Power Pool Inc.	SPP	2
James Nail	City of Independence, Missouri	SPP	3,5
Jason Smith	Southwest Power Pool Inc	SPP	2
Mahmood Safi	Omaha Public Power District	MRO	1,3,5

### Voter Information

Voter	Segment
Shannon Mickens	2

Entity	Region(s)
Southwest Power Pool, Inc. (RTO)	SPP

Selected Answer: Yes

### Answer Comment:

We would suggest to the SDT to coordinate efforts with the FAC Review Team/SDT along with the Alignment of Terms (Project 2015-04) SDT to ensure that the term 'System Operating Limit-SOL' is correctly defined and aligned with all relevant documentation such as: the Functional Model, Glossary of Terms and the Rules of Procedure (RoP). Additionally, we would ask the drafting team to provide clarity on where should the TLR levels and congestion management actions will need to be updated.

Document Name:

**Likes:** 0

**Dislikes:** 0

**Scott McGough - Georgia System Operations Corporation - 3 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Document Name:**



Likes: 0

Dislikes: 0

**3. The IRO SDT recommends retiring IRO-006-EAST-1 Requirement R3. Do you agree with the retirement of IRO-006-EAST-1 Requirement R3? If not, please explain specifically what aspects of the retirement you disagree with.**

**Robert Hirschak - Cleco Corporation - 6 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

Likes: 0

Dislikes: 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 1 Hydro-Qu?bec TransEnergie, 1, Boisvert Martin

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Anthony Jablonski - ReliabilityFirst - 10 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Chris Scanlon - Exelon - 1 -**

**Group Information**

Group Name: Exelon Utilities

Group Member Name	Entity	Region	Segments
Chris Scanlon	BGE, ComEd, PECO TO's	RFC	1
John Bee	BGE, ComEd, PECO LSE's	RFC	3

**Voter Information**

**Voter**

**Segment**

Chris Scanlon

1

**Entity**

**Region(s)**

Exelon

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Group Information**

Group Name: MRO-NERC Standards Review Forum (NSRF)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6

Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Emily Rousseau	1,2,3,4,5,6

<b>Entity</b>	<b>Region(s)</b>
MRO	MRO

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Martin Boisvert - Hydro-Quebec TransEnergie - 1 -**

Selected Answer:

**Answer Comment:** N/A

**Document Name:**

**Likes:** 0

**Dislikes:** 0



**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc.,  
2**

**Group Information**

Group Name: Standards Review Committee (SRC)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2
Greg Campoli	NYISO	NPCC	2
Matthew Goldberg	ISO-NE	NPCC	2
Christina Bigelow	ERCOT	TRE	2
Terry Bilke	MISO	MRO	2
Al Dicaprio	PJM	RFC	2

**Voter Information**

**Voter** **Segment**

Kathleen Goodman 2

**Entity** **Region(s)**

ISO New England, Inc. NPCC

Selected Answer: Yes

**Answer Comment:**

The SRC agrees with the retirement, but requests clarification that it is the SDT's position that, in the event of an IDC failure, TLR action will be very limited or unavailable, requiring manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System. If this is the SDT's intent, the SRC suggests the SDT add a condition in R1 (previously R2), to read as follows (addition in square brackets):

R1. Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure [through the Interchange Distribution Calculator (IDC)] to prevent or mitigate an SOL or IROL exceedance shall identify.....

This addition will address ambiguity regarding whether TLRs must be implemented when the IDC is unavailable

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jared Shakespeare - Peak Reliability - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Group Information**

Group Name:        Manage Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
John Ciza	Southern Company Generation and Energy Marketing	SERC	6
Bob Schaffeld	Southern Company Services, Inc.	SERC	1
Bill Shultz	Southern Company Generation	SERC	5
Scott Moore	Alabama Power Company	SERC	3
Rob Watson	Choctaw Generation Limited Partnership, LLLP	SERC	5

**Voter Information**

<b>Voter</b>	<b>Segment</b>
R. Scott Moore	3

<b>Entity</b>	<b>Region(s)</b>
Southern Company - Alabama Power Company	

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Group Information**

Group Name: Duke Energy

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Colby Bellville	1,3,5,6

**Entity****Region(s)**

Duke Energy

FRCC,SERC,RFC

Selected Answer: Yes

**Answer Comment:****Document Name:**

Likes: 0

Dislikes: 0

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer:

**Answer Comment:**

N/A for Texas RE

**Document Name:**

Likes: 0

Dislikes: 0



## Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

### Group Information

Group Name: NPCC--Project 2015-06

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Robert Pellegrini	The United Illuminating Company	NPCC	1
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5

Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Kathleen Goodman	ISO - New England	NPCC	2
Guy Zito	Northeast Power Coordinating Council	NPCC	10

### Voter Information

<b>Voter</b>	<b>Segment</b>
Lee Pedowicz	10
<b>Entity</b>	<b>Region(s)</b>
Northeast Power Coordinating Council	NPCC

Selected Answer: No

**Answer Comment:**

If the acronym IDC is to stay with the standard, it should be spelled out at its initial usage, with the acronym being used subsequently.

Suggest not using the word “ensure” in the Purpose. Consider revising the wording of the Purpose to:

To coordinate action between Reliability Coordinators within the Eastern Interconnection when implementing transmission loading relief procedures (TLR) for the Eastern Interconnection to prevent or manage potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).

The SDT should consider the following:

**a.** The need for this requirement was debated at length when the standard was posted for commenting and balloting in 2009. In the end, the vast majority of the industry supported the notion that such actions would be required in the event that the IDC became unavailable. Also, there was the issue with respect to who would be held responsible for communicating these actions given that it was not appropriate for the vendor of IDC to assume this responsibility and ensure the correctness of the communicated actions.

**b.** If the SDT’s position is that in the event of an IDC failure, TLR action will be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System, then we suggest the SDT to add a condition in R1 (previously R2), to read as follows (addition in square brackets):

R1. Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure [through the Interchange Distribution Calculator (IDC)] to prevent or mitigate an SOL or IROL exceedance shall identify.....

This will effectively remove the need to implement TLRs when the IDC is unavailable.

Add the above wording to R2 to address the situation when IDC is not available.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

#### **Leonard Kula - Independent Electricity System Operator - 2 -**

Selected Answer:

**Answer Comment:**

We are indifferent to the proposal, but suggest that the SDT carefully consider the following:

a. The need for this requirement was debated at length when the standard was posted for commenting and balloting in 2009. In the end, the vast majority of the industry supported the notion that such actions would be required in the event that the IDC became unavailable. Also, there was the issue with respect to who would be held responsible for communicating these actions given that it was not appropriate for the vendor of IDC to take up this responsibility and ensure the correctness of the communicated actions.

b. If the SDT's position is that in the event of an IDC failure, TLR action will be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System, then we suggest the SDT to add a condition in R1 (previously R2), to read as follows (addition in square

brackets):

R1. Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure [through the Interchange Distribution Calculator (IDC)] to prevent or mitigate an SOL or IROL exceedance shall identify.....

This will effectively remove the need to implement TLRs when the IDC is unavailable.

We therefore suggest the SDT to either keep the requirement R3 as is, or add the above wording to R2 to address the situation when IDC is not available.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

Selected Answer: No

**Answer Comment:**

TVA basis for selecting "No" is provided in response to question 9.

**Document Name:**

Likes: 0

Dislikes: 0

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

Selected Answer:

**Answer Comment:**

N/A

**Document Name:**

Likes: 0

Dislikes: 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
James Nail	City of Independence, Missouri	SPP	3,5
Jason Smith	Southwest Power Pool Inc	SPP	2
Mahmood Safi	Omaha Public Power District	MRO	1,3,5

**Voter Information**

**Voter** **Segment**

Shannon Mickens 2

**Entity** **Region(s)**

Southwest Power Pool, Inc. (RTO) SPP

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Scott McGough - Georgia System Operations Corporation - 3 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.



**Document Name:**

**Likes:** 0

**Dislikes:** 0

**4. The IRO SDT recommends revising IRO-006-EAST-1 Requirement R4. Do you agree with the proposed revisions to IRO-006-EAST-1 Requirement R4? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

**Robert Hirschak - Cleco Corporation - 6 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 1 Hydro-Qu?bec TransEnergie, 1, Boisvert Martin

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Anthony Jablonski - ReliabilityFirst - 10 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Chris Scanlon - Exelon - 1 -**

**Group Information**

Group Name: Exelon Utilities

Group Member Name	Entity	Region	Segments
Chris Scanlon	BGE, ComEd, PECO TO's	RFC	1

John Bee	BGE, ComEd, PECO LSE's	RFC	3
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**Voter Information**

**Voter** **Segment**

Chris Scanlon 1

**Entity** **Region(s)**

Exelon

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Group Information**

Group Name: MRO-NERC Standards Review Forum (NSRF)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4

Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Emily Rousseau	1,2,3,4,5,6
<b>Entity</b>	<b>Region(s)</b>
MRO	MRO

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

Selected Answer: No

**Answer Comment:**

To provide clarity around the 15 minute time frame suggest rewording the requirement as below:

"Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority, within 15 minutes of receiving the request from the issuing Reliability Coordinator, to implement the congestion management actions."

Request the requirement be reworded to more clearly identify if the 15 minutes is the required time for the RC to instruct the Sink BA or is the BA expected to implement actions within 15 minutes?

If the 15 minutes is the time requirement for the RC to instruct the Sink BA, then a time frame also should be identified for when the BA has to implement actions. This time requirement should also apply to the GOP.

We request the SDT consider adding time requirements to specify when the Sink BA and associated GOPs should have curtailment actions completed.

We understand this would require adding BA, TOP, and GOP to be applicable to the standard.

To provide clarity around the 15 minute time frame suggest rewording the exception as below:



Should an assessment determines shows that one or more of the congestion management actions communicated in Requirement R3, Part 3.3 will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions, **within 15 minutes of receiving the request**, with the issuing Reliability Coordinator.

This also further agrees with the associated VSL

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Martin Boisvert - Hydro-Qu?bec TransEnergie - 1 -**

Selected Answer:

**Answer Comment:** N/A

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc.,  
2**

### Group Information

Group Name: Standards Review Committee (SRC)

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2
Greg Campoli	NYISO	NPCC	2
Matthew Goldberg	ISO-NE	NPCC	2
Christina Bigelow	ERCOT	TRE	2
Terry Bilke	MISO	MRO	2
Al Dicaprio	PJM	RFC	2

### Voter Information

**Voter**

**Segment**

Kathleen Goodman

2

**Entity**

**Region(s)**

ISO New England, Inc.

NPCC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jared Shakespeare - Peak Reliability - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Group Information**

Group Name: Manage Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
John Ciza	Southern Company Generation and Energy Marketing	SERC	6

Bob Schaffeld	Southern Company Services, Inc.	SERC	1
Bill Shultz	Southern Company Generation	SERC	5
Scott Moore	Alabama Power Company	SERC	3
Rob Watson	Choctaw Generation Limited Partnership, LLLP	SERC	5

**Voter Information**

**Voter** **Segment**

R. Scott Moore 3

**Entity** **Region(s)**

Southern Company - Alabama Power Company

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

Likes: 0

Dislikes: 0

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

Likes: 0

Dislikes: 0

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

### Group Information

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

### Voter Information

Voter	Segment
Colby Bellville	1,3,5,6
Entity	Region(s)
Duke Energy	FRCC,SERC,RFC

Selected Answer: No

#### Answer Comment:

Duke Energy requests clarification from the SDT regarding the wording in the proposed R4. As currently written, it is not entirely clear as to what/who is attributable to the given 15 minute timeframe. Is the 15



**minute timeframe attributable to the RC, and requires the RC to instruct the Sink BA to implement congestion management actions within 15 minutes of receiving the request from an issuing RC? Or, is the 15 minute timeframe attributable to the Sink BA, requiring the Sink BA to implement the congestion management actions within 15 minutes of receiving instruction from its RC?**

**Alternative language that could help to add clarity to the requirement is dependent upon the answer to our question above.**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer:

**Answer Comment:**

N/A for Texas RE

**Document Name:**

**Likes:** 0

**Dislikes:** 0

## Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

### Group Information

Group Name: NPCC--Project 2015-06

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Robert Pellegrini	The United Illuminating Company	NPCC	1
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8

Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Kathleen Goodman	ISO - New England	NPCC	2
Guy Zito	Northeast Power Coordinating Council	NPCC	10

### Voter Information

<b>Voter</b>	<b>Segment</b>
Lee Pedowicz	10
<b>Entity</b>	<b>Region(s)</b>
Northeast Power Coordinating Council	NPCC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Leonard Kula - Independent Electricity System Operator - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

Selected Answer: No

**Answer Comment:**

To provide clarity around the 15 minute time frame suggest rewording the requirement as below:

"

Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority, within 15 minutes of receiving the request from the issuing Reliability Coordinator, to implement the congestion management actions."

Request the requirement be reworded to more clearly identify if the 15 minutes is the required time for the RC to instruct the Sink BA or is the BA expected to implement actions within 15 minutes?

If the 15 minutes is the time requirement for the RC to instruct the Sink BA, then a time frame also should be identified for when the BA has to implement actions.

We request the SDT consider adding time requirements to specify when the

Sink BA should have curtailment actions completed.

We understand this would require adding BA to be applicable to the standard.

To provide clarity around the 15 minute time frame suggest rewording the exception as below:

Should an assessment determine that one or more of the congestion management actions communicated in Requirement R3, Part 3.3 will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions, **within 15 minutes of receiving the request**, with the issuing Reliability Coordinator.

This also further agrees with the associated VSL.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

Selected Answer:

**Answer Comment:** N/A

**Document Name:**

Likes: 0

Dislikes: 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
James Nail	City of Independence, Missouri	SPP	3,5
Jason Smith	Southwest Power Pool Inc	SPP	2
Mahmood Safi	Omaha Public Power District	MRO	1,3,5

**Voter Information**

Voter	Segment
Shannon Mickens	2

  

Entity	Region(s)
Southwest Power Pool, Inc. (RTO)	SPP

Selected Answer: Yes

**Answer Comment:**

The review group agrees that there should be some form of revision in reference to Requirement R4. We would suggest to the SDT to include some alternative language to ensure that the Sink Balancing Authority being referenced in this requirement is applicable to the Reliability Coordinator's area. We would suggest the alternative language as followed: 'Each Reliability Coordinator with a Sink Balancing Authority (with in the Reliability Coordinator's area) that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority (with in the Reliability Coordinator's area) to implement the congestion management actions within 15 minutes of receiving the request from the issuing'. The suggested alternative term 'area' was taken from page 6 of Requirement R2 **Registered Entity Response** section of the RSAW if you review the first sentence in reference to **Question**. Additionally, we would suggest to the drafting team to provide some form of examples to help give more clarity on what type of assessment(s) they are referring to in the bullet. Providing proof of an assessment can be challenging depending on the issue. The use of the term 'assessment' may need to be reviewed.

**Document Name:**

Likes: 0

Dislikes: 0

**Scott McGough - Georgia System Operations Corporation - 3 -**

Selected Answer: No



**Answer Comment:**

To provide clarity around the 15 minute time frame suggest rewording the requirement as below:

“Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority, within 15 minutes of receiving the request from the issuing Reliability Coordinator, to implement the congestion management actions.”

Request the requirement be reworded to more clearly identify if the 15 minutes is the required time for the RC to instruct the Sink BA or is the BA expected to implement actions within 15 minutes?

If the 15 minutes is the time requirement for the RC to instruct the Sink BA, then a time frame also should be identified for when the BA has to implement actions. This time requirement should also apply to the GOP.

We request the SDT consider adding time requirements to specify when the Sink BA and associated GOPs should have curtailment actions completed.

We understand this would require adding BA, TOP, and GOP to be applicable to the standard.

To provide clarity around the 15 minute time frame suggest rewording the exception as below:

Should an assessment determines shows that one or more of the congestion management actions communicated in Requirement R3, Part 3.3 will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions, within 15 minutes of receiving the request, with the issuing Reliability Coordinator.

This also further agrees with the associated VSL

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**5. *The IRO SDT recommends revising IRO-009-1 Requirement R1 to include elements of IRO-009-1 Requirement R2. Do you agree with the proposed revisions to IRO-009-1 Requirement R1? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.***

**Robert Hirschak - Cleco Corporation - 6 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 1 Hydro-Qu?bec TransEnergie, 1, Boisvert Martin

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Anthony Jablonski - ReliabilityFirst - 10 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Chris Scanlon - Exelon - 1 -**

**Group Information**

Group Name: Exelon Utilities

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Chris Scanlon	BGE, ComEd, PECO TO's	RFC	1
John Bee	BGE, ComEd, PECO LSE's	RFC	3

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Chris Scanlon	1
<b>Entity</b>	<b>Region(s)</b>
Exelon	

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Group Information**

Group Name: MRO-NERC Standards Review Forum (NSRF)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1

Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

### Voter Information

<b>Voter</b>	<b>Segment</b>
Emily Rousseau	1,2,3,4,5,6
<b>Entity</b>	<b>Region(s)</b>
MRO	MRO



Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Martin Boisvert - Hydro-Qu?bec TransEnergie - 1 -**

Selected Answer:

**Answer Comment:**

Please see the comments submitted by Si Truc Phan, **On Behalf of:** Hydro-Quebec TransEnergie, NPCC, Segments 1

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc.,  
2**

**Group Information**

Group Name: Standards Review Committee (SRC)

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2
Greg Campoli	NYISO	NPCC	2
Matthew Goldberg	ISO-NE	NPCC	2
Christina Bigelow	ERCOT	TRE	2
Terry Bilke	MISO	MRO	2
Al Dicaprio	PJM	RFC	2

### Voter Information

Voter	Segment
Kathleen Goodman	2

  

Entity	Region(s)
ISO New England, Inc.	NPCC

Selected Answer: No

**Answer Comment:**

a) The SRC (note, ERCOT does not support this comment) has concerns with the clarity of the existing wording in Requirement R1. Specifically, it suggests that the following phrase be revised for clarity:

from

“For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day...”

to

“For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies through its Operational Planning Analysis...”

b) The SRC agrees with the proposed changes, but suggests to revise Part 1.2 as follows to improve clarity (added word in square bracket):

"1.2 To mitigate the magnitude and duration of an IROL exceedance such that the IROL [exceedance] is relieved within the IROL's Tv."

The added word is needed since an IROL is a limit, whose relief is not required; but its exceedance needs to be relieved.

c) There are two “that’s” in Measure M1. The measure should be revised to remove the additional “that.”

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jared Shakespeare - Peak Reliability - 1 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Group Information**

Group Name: Manage Group

Group Member Name	Entity	Region	Segments
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John Ciza	Southern Company Generation and Energy Marketing	SERC	6
Bob Schaffeld	Southern Company Services, Inc.	SERC	1
Bill Shultz	Southern Company Generation	SERC	5
Scott Moore	Alabama Power Company	SERC	3
Rob Watson	Choctaw Generation Limited Partnership, LLLP	SERC	5

**Voter Information**

**Voter** **Segment**

R. Scott Moore 3

**Entity** **Region(s)**

Southern Company - Alabama Power Company

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0



**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Group Information**

Group Name: Duke Energy

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Colby Bellville	1,3,5,6
<b>Entity</b>	<b>Region(s)</b>
Duke Energy	FRCC,SERC,RFC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Group Information**

**Group Name:** NPCC--Project 2015-06

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
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Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Robert Pellegrini	The United Illuminating Company	NPCC	1
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1

Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Kathleen Goodman	ISO - New England	NPCC	2
Guy Zito	Northeast Power Coordinating Council	NPCC	10

### Voter Information

Voter	Segment
Lee Pedowicz	10

Entity	Region(s)
Northeast Power Coordinating Council	NPCC

Selected Answer: No

#### Answer Comment:

To be consistent with in place standard formatting, Requirement R1 should be revised to read:

R1. Each Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it the Reliability Coordinator shall take, or actions it shall direct others to take for each IROL

that the Reliability Coordinator identifies one or more days prior to the current day.

We agree with the proposed changes, but suggest rewording Part 1.2 as follows to improve clarity (added word in square bracket):

1.2 To mitigate the magnitude and duration of an IROL exceedance such that the IROL [exceedance] is relieved within the IROL's Tv.

The added word is needed since IROL is a limit, whose relief is not required; but its exceedance needs to be relieved.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Leonard Kula - Independent Electricity System Operator - 2 -**

**Selected Answer:** Yes

**Answer Comment:**

a. We agree with the proposed changes, but suggest to reword Part 1.2 as follows to improve clarity (added word in square bracket):

1.2 To mitigate the magnitude and duration of an IROL exceedance such that the IROL [exceedance] is relieved within the IROL's Tv.

The added word is needed since IROL is a limit, whose relief is not required; but its exceedance needs to be relieved.

b. There are two "that's" in Measure M1. Please remove one of them.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
James Nail	City of Independence, Missouri	SPP	3,5
Jason Smith	Southwest Power Pool Inc	SPP	2
Mahmood Safi	Omaha Public Power District	MRO	1,3,5

**Voter Information**

**Voter** **Segment**

Shannon Mickens 2

**Entity** **Region(s)**

Southwest Power Pool, Inc. (RTO) SPP

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0



**Scott McGough - Georgia System Operations Corporation - 3 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**6. The IRO SDT recommends revising IRO-009-1 Requirement R3. Do you agree with the proposed revisions to IRO-009-1 Requirement R3? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

**Robert Hirschak - Cleco Corporation - 6 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 1 Hydro-Qu?bec TransEnergie, 1, Boisvert Martin

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Anthony Jablonski - ReliabilityFirst - 10 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Chris Scanlon - Exelon - 1 -**

**Group Information**

Group Name: Exelon Utilities

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Chris Scanlon	BGE, ComEd, PECO TO's	RFC	1
John Bee	BGE, ComEd, PECO LSE's	RFC	3

**Voter Information**

**Segment**

**Voter**

Chris Scanlon

1

**Entity**

**Region(s)**

Exelon

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Group Information**

Group Name: MRO-NERC Standards Review Forum (NSRF)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

**Voter Information**

**Voter** **Segment**

Emily Rousseau 1,2,3,4,5,6

**Entity** **Region(s)**

MRO MRO

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

Selected Answer: Yes



**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Martin Boisvert - Hydro-Quebec TransEnergie - 1 -**

Selected Answer:

**Answer Comment:**

Please see the comments submitted by Si Truc Phan, **On Behalf of:** Hydro-Quebec TransEnergie, NPCC, Segments 1

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc.,  
2**

**Group Information**

Group Name: Standards Review Committee (SRC)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2
Greg Campoli	NYISO	NPCC	2
Matthew Goldberg	ISO-NE	NPCC	2
Christina Bigelow	ERCOT	TRE	2
Terry Bilke	MISO	MRO	2
Al Dicaprio	PJM	RFC	2

**Voter Information**

**Voter** **Segment**

Kathleen Goodman

2

**Entity**

**Region(s)**

ISO New England, Inc.

NPCC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jared Shakespeare - Peak Reliability - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Group Information**

Group Name: Manage Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
John Ciza	Southern Company Generation and Energy Marketing	SERC	6
Bob Schaffeld	Southern Company Services, Inc.	SERC	1
Bill Shultz	Southern Company Generation	SERC	5
Scott Moore	Alabama Power Company	SERC	3

Rob Watson	Choctaw Generation Limited Partnership, LLLP	SERC	5
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**Voter Information**

**Voter** **Segment**

R. Scott Moore 3

**Entity** **Region(s)**

Southern Company - Alabama Power Company

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

[Group Information](#)

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

### Voter Information

Voter	Segment
Colby Bellville	1,3,5,6

  

Entity	Region(s)
Duke Energy	FRCC,SERC,RFC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0



**Dislikes:** 0

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Group Information**

Group Name: NPCC--Project 2015-06

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1

Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Robert Pellegrini	The United Illuminating Company	NPCC	1
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5

Kathleen Goodman	ISO - New England	NPCC	2
Guy Zito	Northeast Power Coordinating Council	NPCC	10

**Voter Information**

**Voter** **Segment**

Lee Pedowicz 10

**Entity** **Region(s)**

Northeast Power Coordinating Council NPCC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
James Nail	City of Independence, Missouri	SPP	3,5
Jason Smith	Southwest Power Pool Inc	SPP	2
Mahmood Safi	Omaha Public Power District	MRO	1,3,5

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Shannon Mickens	2

<b>Entity</b>	<b>Region(s)</b>
Southwest Power Pool, Inc. (RTO)	SPP

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Scott McGough - Georgia System Operations Corporation - 3 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**7. The IRO SDT recommends revising IRO-009-1 Requirement R4. Do you agree with the proposed revisions to IRO-009-1 Requirement R4? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

**Robert Hirschak - Cleco Corporation - 6 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**



**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 1 Hydro-Quebec TransEnergie, 1, Boisvert Martin

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Anthony Jablonski - ReliabilityFirst - 10 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Chris Scanlon - Exelon - 1 -**

**Group Information**

Group Name: Exelon Utilities

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Chris Scanlon	BGE, ComEd, PECO TO's	RFC	1
John Bee	BGE, ComEd, PECO LSE's	RFC	3

**Voter Information**

**Voter** **Segment**

Chris Scanlon

1

**Entity**

**Region(s)**

Exelon

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

Dislikes: 0

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Group Information**

Group Name: MRO-NERC Standards Review Forum (NSRF)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6

Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

**Voter Information**

**Voter** **Segment**

Emily Rousseau 1,2,3,4,5,6

**Entity** **Region(s)**

MRO MRO

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Martin Boisvert - Hydro-Quebec TransEnergie - 1 -**

Selected Answer:

**Answer Comment:**

Please see the comments submitted by Si Truc Phan, **On Behalf of:** Hydro-Quebec TransEnergie, NPCC, Segments 1

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes



**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc.,  
2**

**Group Information**

Group Name: Standards Review Committee (SRC)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2
Greg Campoli	NYISO	NPCC	2
Matthew Goldberg	ISO-NE	NPCC	2
Christina Bigelow	ERCOT	TRE	2
Terry Bilke	MISO	MRO	2
Al Dicaprio	PJM	RFC	2

**Voter Information**

**Voter**

**Segment**

Kathleen Goodman

2

**Entity**

**Region(s)**

ISO New England, Inc.

NPCC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jared Shakespeare - Peak Reliability - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Group Information**

Group Name: Manage Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
John Ciza	Southern Company Generation and Energy Marketing	SERC	6
Bob Schaffeld	Southern Company Services, Inc.	SERC	1
Bill Shultz	Southern Company Generation	SERC	5
Scott Moore	Alabama Power Company	SERC	3

Rob Watson	Choctaw Generation Limited Partnership, LLLP	SERC	5
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**Voter Information**

**Voter** **Segment**

R. Scott Moore 3

**Entity** **Region(s)**

Southern Company - Alabama Power Company

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Group Information**

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
-------------------	--------	--------	----------

Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

**Voter Information**

**Segment**

**Voter**

Colby Bellville

1,3,5,6

**Entity**

**Region(s)**

Duke Energy

FRCC,SERC,RFC

Selected Answer: Yes



**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Group Information**

Group Name: NPCC--Project 2015-06

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2

Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Robert Pellegrini	The United Illuminating Company	NPCC	1
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8

RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Kathleen Goodman	ISO - New England	NPCC	2
Guy Zito	Northeast Power Coordinating Council	NPCC	10

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Lee Pedowicz	10
<b>Entity</b>	<b>Region(s)</b>
Northeast Power Coordinating Council	NPCC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Leonard Kula - Independent Electricity System Operator - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

Dislikes: 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
James Nail	City of Independence, Missouri	SPP	3,5
Jason Smith	Southwest Power Pool Inc	SPP	2
Mahmood Safi	Omaha Public Power District	MRO	1,3,5

**Voter Information**

**Segment**

**Voter**



Shannon Mickens

2

**Entity**

**Region(s)**

Southwest Power Pool, Inc. (RTO)

SPP

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**8. *The IRO SDT recommends revising IRO-009-1 Requirement R5. Do you agree with the proposed revisions to IRO-009-1 Requirement R5? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.***

**Robert Hirschak - Cleco Corporation - 6 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 1 Hydro-Qu?bec TransEnergie, 1, Boisvert Martin

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Anthony Jablonski - ReliabilityFirst - 10 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

Dislikes: 0

**Chris Scanlon - Exelon - 1 -**

**Group Information**

Group Name: Exelon Utilities

Group Member Name	Entity	Region	Segments
Chris Scanlon	BGE, ComEd, PECO TO's	RFC	1
John Bee	BGE, ComEd, PECO LSE's	RFC	3

**Voter Information**

**Segment**

**Voter**

Chris Scanlon

1



**Entity**

**Region(s)**

Exelon

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Group Information**

Group Name: MRO-NERC Standards Review Forum (NSRF)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6

Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

[Voter Information](#)

**Segment**

**Voter**

Emily Rousseau

1,2,3,4,5,6

**Entity**

**Region(s)**

MRO

MRO

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Martin Boisvert - Hydro-Qu?bec TransEnergie - 1 -**

Selected Answer:

**Answer Comment:**

Please see the comments submitted by Si Truc Phan, **On Behalf of:** Hydro-Quebec TransEnergie, NPCC, Segments 1N/A

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc.,  
2**

**Group Information**

Group Name: Standards Review Committee (SRC)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2



Greg Campoli	NYISO	NPCC	2
Matthew Goldberg	ISO-NE	NPCC	2
Christina Bigelow	ERCOT	TRE	2
Terry Bilke	MISO	MRO	2
Al Dicaprio	PJM	RFC	2

**Voter Information**

**Voter** **Segment**

Kathleen Goodman 2

**Entity** **Region(s)**

ISO New England, Inc. NPCC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jared Shakespeare - Peak Reliability - 1 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

[Group Information](#)

Group Name:        Manage Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
John Ciza	Southern Company Generation and Energy Marketing	SERC	6
Bob Schaffeld	Southern Company Services, Inc.	SERC	1
Bill Shultz	Southern Company Generation	SERC	5
Scott Moore	Alabama Power Company	SERC	3
Rob Watson	Choctaw Generation Limited Partnership, LLLP	SERC	5

**Voter Information**

<b>Voter</b>	<b>Segment</b>
R. Scott Moore	3

  

<b>Entity</b>	<b>Region(s)</b>
---------------	------------------

Southern Company - Alabama Power Company

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Group Information**

Group Name: Duke Energy

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Colby Bellville	1,3,5,6

**Entity**

**Region(s)**

Duke Energy

FRCC,SERC,RFC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer: Yes



**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Group Information**

Group Name: NPCC--Project 2015-06

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3

Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Robert Pellegrini	The United Illuminating Company	NPCC	1
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1

Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Kathleen Goodman	ISO - New England	NPCC	2
Guy Zito	Northeast Power Coordinating Council	NPCC	10

**Voter Information**

**Segment**

**Voter**

Lee Pedowicz

10

**Entity**

**Region(s)**

Northeast Power Coordinating Council

NPCC

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

Likes: 0

Dislikes: 0

**Leonard Kula - Independent Electricity System Operator - 2 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
James Nail	City of Independence, Missouri	SPP	3,5
Jason Smith	Southwest Power Pool Inc	SPP	2

Mahmood Safi	Omaha Public Power District	MRO	1,3,5
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**Voter Information**

**Voter** **Segment**

Shannon Mickens 2

**Entity** **Region(s)**

Southwest Power Pool, Inc. (RTO) SPP

Selected Answer: Yes

**Answer Comment:**

**Document Name:**



**Likes:** 0

**Dislikes:** 0

**Scott McGough - Georgia System Operations Corporation - 3 -**

Selected Answer: Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Selected Answer: Yes

**Answer Comment:**

ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Document Name:**

Likes: 0

Dislikes: 0

**9. *If you have any other comments that you have not already mentioned above, please provide them here:***

**Robert Hirschak - Cleco Corporation - 6 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC**

Selected Answer:

**Answer Comment:**

**Document Name:** Comments regarding Standard IRO-009.docx

**Likes:** 1 Hydro-Qu?bec TransEnergie, 1, Boisvert Martin

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Anthony Jablonski - ReliabilityFirst - 10 -**

Selected Answer:

**Answer Comment:**

ReliabilityFirst agrees that the recommended changes in the IRO-009 draft standard are consistent with the five year review team recommendations and the overall quality of the language in the standard is improved.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Chris Scanlon - Exelon - 1 -**

**Group Information**

Group Name: Exelon Utilities

Group Member Name	Entity	Region	Segments
Chris Scanlon	BGE, ComEd, PECO TO's	RFC	1

John Bee	BGE, ComEd, PECO LSE's	RFC	3
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**Voter Information**

<b>Voter</b>	<b>Segment</b>
Chris Scanlon	1

<b>Entity</b>	<b>Region(s)</b>
Exelon	

Selected Answer:

**Answer Comment:**

The implementation plans for both standards include a reference that the prior implementation plan is incorporated by reference and a link is provided. Unless the standards are still in implementation, these references are not necessary and may confuse some entities implementing the



standard. We encourage the SDT to remove the language unless it is needed for implementation.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

Dislikes: 0

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

Group Information

Group Name: MRO-NERC Standards Review Forum (NSRF)

Group Member Name	Entity	Region	Segments
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6

Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Marie Knox	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Randi Nyholm	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

### Voter Information

	Segment
<b>Voter</b>	
Emily Rousseau	1,2,3,4,5,6
<b>Entity</b>	<b>Region(s)</b>

MRO

MRO

Selected Answer:

**Answer Comment:**

The drafting team did a good job of removing redundancies and adding clarity.

There is an apparent bug in the existing wording of IRO-009 that the team might consider changing. The current wording is: "For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day..."

Yesterday is one day prior to the current day. The day before yesterday is more than one day prior to today. Seems like better wording would be: "For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies beyond prior to the current day..."

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Martin Boisvert - Hydro-Qu?bec TransEnergie - 1 -**

Selected Answer:

**Answer Comment:**

Please see the comments submitted by Si Truc Phan, **On Behalf of:** Hydro-Quebec TransEnergie, NPCC, Segments 1

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Mike Smith - Manitoba Hydro - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc.,  
2**

**Group Information**

Group Name: Standards Review Committee (SRC)

Group Member Name	Entity	Region	Segments
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Charles Yeung	SPP	SPP	2
Ben Li	IESO	NPCC	2
Greg Campoli	NYISO	NPCC	2
Matthew Goldberg	ISO-NE	NPCC	2
Christina Bigelow	ERCOT	TRE	2
Terry Bilke	MISO	MRO	2
Al Dicaprio	PJM	RFC	2

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Kathleen Goodman	2
<b>Entity</b>	<b>Region(s)</b>
ISO New England, Inc.	NPCC

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

---

**Jared Shakespeare - Peak Reliability - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

## Group Information

Group Name: Manage Group

Group Member Name	Entity	Region	Segments
John Ciza	Southern Company Generation and Energy Marketing	SERC	6
Bob Schaffeld	Southern Company Services, Inc.	SERC	1
Bill Shultz	Southern Company Generation	SERC	5
Scott Moore	Alabama Power Company	SERC	3
Rob Watson	Choctaw Generation Limited Partnership, LLLP	SERC	5

## Voter Information

**Segment**

**Voter**

R. Scott Moore

3

**Entity**

**Region(s)**

Southern Company - Alabama Power Company

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Group Information**

Group Name: Duke Energy

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

**Voter Information**

**Segment**

**Voter**

Colby Bellville

1,3,5,6

**Entity**

**Region(s)**

Duke Energy

FRCC,SERC,RFC

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0



Selected Answer:

**Answer Comment:**

During the last comment period, Texas RE pointed out that IRO-009-2 references an IROL Violation Report in EOP-004-1, which is retired. The SDT responded IRO-009-2 should not contain a reference to a retired document. It still appears that there is a reference to the Violation Report in section 1.1 Evidence Retention and Section 1.3 Additional Compliance Information.

Additionally, Texas RE noticed that the “v” in Tv was not consistently subscripted throughout the document.

Texas RE recommends changing the VSL for R3 so that it is consistent with the R3 language. For example, the standard language indicates that the Reliability Coordinator *shall act or direct others to act* to mitigate the IROL within its Tv, which the proposed VSL does not explicitly reflect. Therefore, Texas RE recommends the following revisions to the VSL for R3:

Severe – Actual system conditions showed that there was an IROL exceedance in its Reliability Coordinator Area, the Reliability Coordinator did not act, or direct others to act and the IROL exceedance was not mitigated within the IROL’s Tv.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Group Information**

Group Name: NPCC--Project 2015-06

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1

Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Robert Pellegrini	The United Illuminating Company	NPCC	1
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1

Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Kathleen Goodman	ISO - New England	NPCC	2
Guy Zito	Northeast Power Coordinating Council	NPCC	10

**Voter Information**

	<b>Segment</b>
<b>Voter</b>	
Lee Pedowicz	10
<b>Entity</b>	<b>Region(s)</b>

Selected Answer:

**Answer Comment:**

Regarding IRO-009-1: R1 refers to 'Operating Processes, Procedures, or Plans that identify actions....'...R2 refers to ' ....one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1).....why wouldn't every potential process, procedure or plan available as an option in R2 also be included in R1?....in other words if its available for R2 should it not also be an 'action' available for R1?

Remove the second "that" from Measure M1 to have it read"... along with one or more dated Operating Processes, Procedures, or Plans that will be used."

Since Requirement R2 specifies that operating processes, procedures and plans not be limited to those developed in R1, and since R3 makes no reference to R1, the Measures M2 and M3 should not refer to R1 when enumerating types of evidence.

R2 calls for RC to initiate one or more Operating Processes, Procedures and Plans... Therefore, the VSL should take into account that the RC may have only initiated one of the many necessary procedures or plans to prevent the IROL exceedance. Presently the VSL only considers no Operating Processes, Plans or Procedures initiated.

Add the following text either to Severe VSL or High VSL: The RC did not initiate all Operating Processes, Procedures and Plans that could have

prevented an IROL exceedance.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Leonard Kula - Independent Electricity System Operator - 2 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

Selected Answer:

**Answer Comment:**

Overall, we agree with the proposed changes as simple refinements of the standards that do not change the basic reliability requirements. However, we do note that the language for TLR-6 in the supplemental material could be redundant with TLR-3a, TLR-3b, TLR-5a, and TLR-5b. TLR-6 indicates there is a Transmission Facility is currently exceeding or is expect to exceed its SOL or IROL. These same conditions apply to TLR-3a, TLR-3b, TLR-5a, and TLR-5b with the exception that those levels describe whether non-firm and firm curtailments are sufficient to mitigate the exceedance. TLR-6 should only be issued when complete curtailment of firm and non-firm interchange transactions are insufficient to mitigate and SOL or IROL exceedance and additional emergency actions may be warranted for complete mitigation. The description should be updated to reflect this statement.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

Selected Answer:

**Answer Comment:**

IRO-006-EAST is the Transmission Loading Relief Procedure for the Eastern Interconnection. Currently the procedure is only applicable to the Reliability Coordinator. For TLR process to work in a reliable, predicable and consistent manner, the standard also needs to be applicable to the Balancing Authority. Without the cooperation of the BA the relief that is needed to keep the transmission system reliable isn't guaranteed to arrive as the requesting RCs are expecting. As the make-up of the Eastern Interconnection has changed over the years, the timing for relief provided seems to have diverged. The timing of relief provided by tags differs to the timing of relief provided by firm and non-firm market flows differs from the timing of relief provided by generation redispatch to meet NNL curtailment obligations. This lack of consistency and predictability has led to issues when using the TLR process. For example, TVA has experienced times where entities provide the required relief for the current hour well after TVA has had to reissue the TLR for next hour. Reliability Coordinators can't expect to mitigate transmission system exceedences in a timely manner if the TLR process does not provide relief in a timely manner. The standard currently set the expectation that the RC notify the BA of their relief obligation in 15 minutes but is silent on how long the BA has to start meeting their relief obligation and when it is expected to be finished. Some BA have specific rules as to when they will input their relief obligations in their generation redispatch significantly delaying when the RC can expect requested relief. TVA urges the Standard Drafting Team to consider extending the applicability of this TLR standard to the BA and define



consistent timing requirements that all entities have to follow in order to increase the reliability, predictability and usefulness of the TLR process.

Another consideration is that there are times when an immediate change in ACE from a large TLR impact could cause a reliability issue for the BA that is more severe than the issue which caused the TLR to be initiated. The standard needs to be clear on how those conflicting reliability issues should be dealt with. In many cases other alternatives are available which do not cause a reliability issue for any entities.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

Selected Answer:

**Answer Comment:** N/A

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
James Nail	City of Independence, Missouri	SPP	3,5
Jason Smith	Southwest Power Pool Inc	SPP	2
Mahmood Safi	Omaha Public Power District	MRO	1,3,5

**Voter Information**

**Voter** **Segment**

Shannon Mickens 2

**Entity** **Region(s)**

Southwest Power Pool, Inc. (RTO) SPP

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Scott McGough - Georgia System Operations Corporation - 3 -**

Selected Answer:

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

Selected Answer:

**Answer Comment:**

ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

Additional comments received from Si Truc Phan – Hydro-Quebec TransEnergie

**Comments regarding Standard IRO-009-2**

**Comment 1:** Replace terms such as « mitigate » and « relieve » with « eliminate ».

Considering that an IROL exceedance can lead to widespread outages, it should be required that the IROL exceedance be eliminated within Tv .

However when one looks at the vocabulary used in the standard it is much less forceful. The requirements call for reducing or alleviating the IROL exceedance rather than removing it.

The following definitions come from the Merriam-Webster:

**Mitigate:** (*transitive verb*)

1 : to cause to become less harsh or hostile : mollify

2 a : to make less severe or painful : alleviate

b : extenuate

Synonyms: allay, alleviate, assuage, ease, help, mollify, palliate, relieve, soothe

**Relieve:** (*transitive verb*)

1 a : to free from a burden : give aid or help to

b : to set free from an obligation, condition, or restriction

c : to ease of a burden, wrong, or oppression by judicial or legislative interposition

2 a : to bring about the removal or alleviation of : mitigate <helps relieve stress>

b : rob, deprive <relieved us of our belongings>

(...)

Synonyms: allay, alleviate, assuage, ease, mitigate, mollify, palliate, help, soothe

**Comment 2:** Typographical error in Measure M1

M2. (...) along with one or more dated Operating Processes, Procedures, or Plans that ~~that~~ will be used.

**Comment 3:** Measures M2 and M3

Since Requirement R2 specifies that operating processes, procedures and plans not be limited to those developed in R1, and since R3 makes no reference whatsoever to R1, the Measures M2 and M3 should not refer to R1 when enumerating types of evidence.

**M2.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it initiated one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) in accordance with Requirement R2. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans ~~from Requirement R1~~, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**M3.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans ~~from Requirement R1~~, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**Comment 4:** VSL for R2

R2 calls for RC to initiate one or more Operating Processes, Procedures and Plans... Therefore, the VSL should take into account that the RC may have only initiated one of the many necessary procedures or plans to prevent the IROL exceedance. Presently the VSL only considers no Operating Processes, Plans or Procedures initiated.

Add the following text either to Severe VSL or High VSL: The RC did not initiate all Operating Processes, Procedures and Plans that could have prevented an IROL exceedance.

Prepared by: Jeannette Gauthier, Compliance Engineer  
Hydro-Québec TransÉnergie

June 5<sup>th</sup> 2015

# Consideration of Comments

## Project 2015-06 Interconnection Reliability Operations and Coordination IRO-006-East and IRO-009

The Project 2015-06 Drafting Team thanks all commenters who submitted comments on the standards. The standards were posted for a formal 45-day public comment period from May 21, 2015 through July 08, 2015<sup>1</sup>. Stakeholders were asked to provide feedback on the standards and associated documents through a special electronic comment form.

All comments submitted may be reviewed in their original format on the [project page](#).

There were 29 sets of responses, including comments from approximately 89 different people from approximately 64 different companies representing 9 of the 10 Industry Segments as shown in the report.

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Director of Standards, [Howard Gugel](#) (via email) or at (404) 446-9693.

This document contains the Project 2015-06 Interconnection Reliability Operations (IRO) standard drafting team's (SDT) response to all industry comments received during this comment period. The IRO SDT encourages commenters to review its responses to ensure all concerns have been addressed. The IRO SDT notes that while commenters agree with the IRO SDT's recommendations on the standards, specific concerns were expressed. Some comments supporting the IRO SDT's recommendations are discussed below but in most cases are not specifically addressed in this response. Also, several comments in response to specific questions are duplicated in other questions, and several commenters raise substantively the same concerns as others. Therefore, the IRO SDT's consideration of all comments is addressed in this section in summary form, with duplicate comments treated as a single issue.

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<sup>1</sup> The public comment period for IRO-006-EAST-2 closed on July 8, 2015 as scheduled; however, the public comment period for IRO-009-2 was extended to close on July 9, 2015 in an effort to reach quorum.



## 1. Summary Consideration

Based on the results from the comment and ballot period, it appears that industry generally agrees with the Project 2015-06 IRO SDT recommendations on revisions to IRO-006-EAST-1 and IRO-009-1. However, there are some disagreements among stakeholders and suggestions for language revisions contained in industry comments. To the extent that there are comments beyond the scope of the IRO SDT, those comments will be communicated to the appropriate drafting team or other appropriate group for consideration.

Additionally, the IRO SDT considered recommendations provided by the Industry Expert Review Panel as follows:

IRO-006-EAST-1:

Industry Expert Review Panel questioned if it would be possible to combine in continent wide standard.

It is the position of the IRO SDT that IRO-006-EAST should remain as a separate standard for the Eastern Interconnection, due to the variety of congestion management techniques in each of the different interconnections, and in particular the unique nature of Transmission Loading Relief (TLR) in the Eastern Interconnection.

IRO-009-1, Requirements R1-R5:

Industry Expert Review Panel recommended incorporating "grid impactful SOLs" into methodology, noting that these are SOLs that can become IROLs. Also suggested adding a definition to the Glossary. Grid impactful SOLs are defined in footnote 31 of paragraph 27 in order 748. . . NERC does not offer a definition of the term "grid impactful SOL," but we understand it to mean an SOL that the reliability coordinator monitor so that it does not develop into an IROL).

The issue of "grid-impactive SOL" has been addressed by NERC in its TOP/IRO Petition in response to two directives from FERC Order No. 748. These directives were addressed in the TOP/IRO Petition as follows:

In addition to the directives addressed by the standards drafting team . . . NERC also notes that it resolved two directives from Order No. 748 that relate to the issues addressed by the proposed Reliability Standards. First, the Commission directed the NERC Reliability Coordinator Working Group to consider whether the need exists to refine the delineation of responsibilities between the Reliability Coordinator and Transmission Operator for analyzing certain "grid-impactive" SOLs that are of interest to the Reliability Coordinator. Second, the Commission directed the NERC Reliability Coordinator Working Group to consider

whether there is a need for reliability coordinators to have action plans developed and implemented with respect to certain “grid-impactive” SOLs that are of interest to the Reliability Coordinator.

The working group, which included participation from the NERC Operating Committee and stakeholders, concluded that there was no need to create another category between IROL and SOL called “grid-impactive” SOLs. The working group determined that such a category could not be clearly defined and consequently did not support changes to the currently effective IRO standards. In addition to the working group action, the directives are addressed by proposed IRO-008-2 Requirements R1 and R2, which require the Reliability Coordinator to (1) analyze both SOLs and IROLs, as discussed above, and (2) must have a coordinated operating plan to address potential SOL and IROL exceedances which considers the operating plans provided by the Transmission Operators.

The TOP/IRO Notice of Proposed Rulemaking (NOPR), issued on June 18, 2015 proposes to approve the TOP and IRO standards and discusses issues raised in the “remand NOPR” that NERC addressed as well as listed new issues. None of the new issues listed in the current NOPR mention grid-impactive SOLs.

The IRO SDT has carefully reviewed and considered the Five-Year Review Team (FYRT) recommendations, as well as each stakeholder comment, and has revised the standards where suggested changes improve clarity and are consistent with IRO SDT intent and apparent industry consensus. The IRO SDT has carefully considered standard language as well as explanatory language and has implemented revisions to further clarify the language based on comments received. The IRO SDT is not changing the intent of the standard modification.

The IRO SDT’s consideration of all comments follows.

## **2. IRO-006-EAST**

Several commenters suggested retaining Requirement R1 since it was developed to address a directive.

FERC Order 693, paragraph 964 states:

964. Accordingly, in addition to approving the Reliability Standard, the Commission directs the ERO to develop a modification to IRO-006-3 through the Reliability Standards development process that (1) includes a clear warning that the TLR procedure is an inappropriate and ineffective tool to mitigate actual IROL violations and (2) identifies in a Requirement the available alternatives to

mitigate an IROL violation other than use of the TLR procedure. In developing the required modification, the ERO should consider the suggestions of MidAmerican and Xcel.

The IRO SDT agrees with the FYRT's acknowledgment that Requirement R1 addresses the directive. The FYRT notes that IRO-008-1 and IRO-009-1 were developed after Order 693 was issued and the particular directive was addressed. The IRO SDT agrees with the FYRT's assertion that IRO-008-1, Requirement R3 and IRO-009-1, Requirement R4 are redundant with Requirement R1 and that the requirements in IRO-008-1 and IRO-009-1 are results based and specify a reliability objective to be achieved. The IRO SDT further agrees with the FYRT's conclusion that Requirement R1 in IRO-006-EAST-1 simply provides a list of actions to be taken without any parameters for their use. The requirements of IRO-008-1 and IRO-009-1 point to IROL exceedances and mitigating the magnitude and duration within the IROL's  $T_v$ .

IRO-008-1, R3: When a Reliability Coordinator determines that the results of an Operational Planning Analysis or Real-time Assessment indicates the need for specific operational actions to prevent or mitigate an instance of exceeding an IROL, the Reliability Coordinator shall share its results with those entities that are expected to take those actions.

IRO-009-1, R4: When actual system conditions show that there is an instance of exceeding an IROL in its Reliability Coordinator Area, the Reliability Coordinator shall, without delay, act or direct others to act to mitigate the magnitude and duration of the instance of exceeding that IROL within the IROL's  $T_v$ .

It should be noted that there is potential overlap between these two requirements in the instance where there is an IROL exceedance but they are not duplicative. IRO-008-1 addresses actions to prevent or mitigate an IROL exceedance while IRO-009-1 addresses an actual exceedance and acting to mitigate the magnitude and duration of the exceedance within  $T_v$ .

One commenter suggested that the IRO SDT remove the reference to IRO-008-1 and its Requirement R3 redundancy issues from the IRO SDT's rationale for recommendation to retire Requirement R1 and requested the drafting team to provide information on the status of the IRO-008-1.

Rather than remove the information, the IRO SDT elects to provide information regarding the potential disposition of the substance of IRO-008-1 Requirement R3 that may result from Project 2014-03 recommendations as well as the status of Project 2014-03 recommendations.

Project 2014-03 Revisions to TOP and IRO Standards recommended replacing IRO-008-1 R3 with proposed IRO-008-2, Requirements R3 and R5. IRO-008-1 is currently subject to enforcement. IRO-008-2 is currently filed and subject to regulatory approval.

Proposed IRO-008-2, Requirements R3 and R5:

R3. Each Reliability Coordinator shall notify impacted entities identified in its Operating Plan(s) cited in Requirement R2 as to their role in such plan(s).

R5. Each Reliability Coordinator shall notify impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area, and other impacted Reliability Coordinators as indicated in its Operating Plan, when the results of a Real-time Assessment indicate an actual or expected condition that results in, or could result in, a System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance within its Wide Area.

A commenter requested that the IRO SDT vet the retirement of Requirement R1 with appropriate ERO and FERC liaisons to ensure that its removal would not result in reissuance of a similar directive.

The IRO SDT has worked closely with appropriate ERO and FERC liaisons, and, to the extent possible, the IRO SDT has ensured that there are no known issues with appropriate ERO and FERC liaisons associated with the retirement of IRO-006-EAST Requirement R1.

At least one commenter noted that the update of “at least every clock hour” is the minimum, and that implementation information should be updated as system conditions change.

The IRO SDT agrees that system conditions may arise that prompt the Reliability Coordinator (RC) to update the TLR. The IRO SDT anticipates that the RC will update the TLR in the Interchange Distribution Calculator (IDC) tool as needed, which will in turn broadcast the updated TLR. The requirement does not prohibit the RC from updating the TLR more often than the clock hour, rather the requirement establishes the minimum hourly update schedule.

A commenter suggested that the SDT coordinate efforts with the FAC Review Team/SDT along with the Alignment of Terms (Project 2015-04) SDT to ensure that the term ‘System Operating Limit-SOL’ is correctly defined and aligned with all relevant documentation such as: the Functional Model, Glossary of Terms and the Rules of Procedure (RoP).

The IRO SDT has taken into consideration the current proposed draft of the term System Operating Limit (SOL) and the potential state of particular Reliability Standards. The IRO SDT will ensure the Project 2015-06 background documents and rationale are provided to the project teams mentioned in the comment, as the work of the IRO SDT will likely conclude prior to the completion of the project teams indicated above.

At least one commenter requested the IRO SDT clarify where the TLR levels and congestion management actions should be updated.

The IRO SDT anticipates that the RC will update such information using the appropriate technology, such as updating the TLR level in the IDC tool.

Several commenters either expressed concern, or requested clarification regarding the IRO SDT's position that, in the event of an IDC failure, TLR action will be very limited or unavailable, requiring manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System, and some commenters provided associated suggested language revisions to the requirements of the standard.

It is the position of the IRO SDT that, if the currently applicable technology, such as IDC, became unavailable, the actions taken would be other than the TLR actions prescribed by the standard, are addressed in other standards, and are beyond the scope of IRO-006-EAST.

One commenter also suggested adding language to Requirement R1 that refers to the Interchange Distribution Calculator (IDC).

The IRO SDT considered adding the language as proposed by the commenter; however, the IRO SDT ultimately determined not to specify the particular technology that would be used to facilitate the TLR so that future standard revisions would not be necessary in the event of technology changes.

At least one commenter raised the issue of who would be held responsible for communicating the actions required by the standard, and noted that it is not appropriate for the vendor of IDC to assume this responsibility and ensure the correctness of the communicated actions.

IRO-006-EAST is applicable to Reliability Coordinators. If the IDC tool is not operational, then the RC would be expected to take alternative actions; however, other entities, such as the vendor of the IDC, are not addressed through the requirements of IRO-006-EAST.

One commenter suggested revising the purpose statement of IRO-006-EAST to remove the term "ensure."

The IRO SDT agrees with the suggested language and has revised the purpose statement as such.

Several commenters provided various suggested revisions of the 15 minute language in proposed IRO-006-EAST-2 Requirement R2, suggesting that the current language, as written, would benefit from additional clarification of whether the 15 minute timeframe applies to the Sink Balancing Authority or Reliability Coordinator.

IRO-006-EAST is only applicable to Reliability Coordinators; therefore, only Reliability Coordinators must comply with the requirements therein. The IRO SDT; however, agrees that the language of the requirement would benefit from further clarification, and has revised the language as such to further clarify the requirement.

More than one commenter opined that the 15 minute time requirement for the RC to instruct the Sink BA, should be complemented by a corresponding time requirement for the BA to implement actions, and that the corresponding time requirement should also apply to the GOP.

IRO-006-EAST is applicable to Reliability Coordinators only. Responsibility to implement the directives as well as any associated timeliness is therefore appropriately addressed through other Reliability Standard requirements.

A commenter raised the issue that there are times when an immediate change in ACE from a large TLR impact could cause a reliability issue for the Balancing Authority that is more severe than the issue which caused the TLR to be initiated, and stated that the standard needs to be clear on how those conflicting reliability issues should be dealt with, noting that in many cases other alternatives are available which do not cause a reliability issue for any entities.

The IRO SDT expects the Reliability Coordinator to coordinate the appropriate actions, and has provided an exception to Requirement R2 that:

“Should an assessment determine that one or more of the congestion management actions communicated will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions with the issuing Reliability Coordinator.”

One commenter suggested that the drafting team provide examples to help give more clarity on what type of assessment(s) they are referring to in the bullet in Requirement R2, noting that providing proof of an assessment may be challenging depending on the issue.

Proposed IRO-006-EAST-2 does not specify the nature of the assessment. The initiator for alternate actions is “will result in a reliability concern or will be ineffective,” not the assessment that determined such. The term assessment is not a defined term, and is broad enough to allow an entity the latitude to exercise judgement during varying circumstances through a variety of different means. The IRO SDT expects that the reasons for taking the alternate action will be the substance of the assessment by which “one or more of the congestion management actions communicated will result in a reliability concern or will be ineffective” is determined.

One commenter suggested that there should be revision of proposed IRO-006-EAST-2 Requirement R2 to include some alternative language to ensure that the Sink Balancing Authority being referenced in this requirement is applicable to the Reliability Coordinator’s area, and provided suggested language.

The SDT carefully considered the suggested language revision and determined that the language as written in the requirement adequately conveys, through the phrase “with a” that the Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure is the Sink Balancing Authority within the applicable Reliability Coordinator’s area. Further, it is the IRO SDT’s understanding that in order for a Sink Balancing Authority to receive congestion management actions pursuant to the Eastern Interconnection TLR procedure, the RC that has the Sink Balancing Authority within its area must acknowledge the TLR if it has been issued by another RC.

One commenter noted that that the language for TLR-6 in the supplemental material could be redundant with TLR-3a, TLR-3b, TLR-5a, and TLR-5b, and that TLR-6 indicates there is a Transmission Facility is currently exceeding or is expect to exceed its SOL or IROL. The commenter also stated that the same conditions apply to TLR-3a, TLR-3b, TLR-5a, and TLR-5b with the exception that those levels describe whether non-firm and firm curtailments are sufficient to mitigate the exceedance, asserting that TLR-6 should only be issued when complete curtailment of firm and non-firm interchange transactions are insufficient to mitigate and SOL or IROL exceedance and additional emergency actions may be warranted for complete mitigation. The commenter recommended updating the description to reflect this statement.

The Standard Attachment, Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels was provided as a reference. The IRO SDT has determined that the reference is more appropriately referenced only in the Associated Documents section of the standard, since the document is maintained outside of the standards development process, and revisions subsequent to Project 2015-06 may make the descriptions of the TLR levels out-of-date. The recommendations above will be communicated to the appropriate group for consideration.

### 3. IRO-009

Several commenters provided various suggested revisions to the language of Requirement R1.

The IRO SDT has carefully considered this proposed language changes and determined that the language of the standard as currently proposed addresses the appropriate identification of IROLs prior to the current day. The IRO SDT maintains that Operational Planning Analysis assesses expected system conditions next-day to determine if there are any anticipated IROL exceedances. Operational Planning Analyses do not in and of themselves determine an IROL.

More than one commenter suggested adding the term "exceedance" following the second instance of IROL in Part 1.2 to clarify that which is to be relieved in Part 1.2.

The IRO SDT agrees that adding the term as suggested improves the clarity of the requirement and has implemented the change in the proposed standard.

One commenter recommended requiring elimination of the IROL exceedance within  $T_v$ , rather than mitigation, noting that an IROL exceedance can lead to widespread outages.

The IRO SDT recognizes that an IROL exceedance can lead to widespread outages. The IRO SDT carefully considered the suggested revisions; however, the IRO SDT has determined that the term "mitigate" should be retained to maintain consistency with the earlier version of IRO-009, as well as with other Reliability Standards.

More than one commenter identified that there is an additional instance of the term "that" in Measure M1, and recommended revision to remove the additional term.

The SDT agrees and has implemented the editorial change as proposed.

At least one commenter recommended revising Requirement R1 as follows:



R1. Each Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it the Reliability Coordinator shall take, or actions it shall direct others to take for each IROL that the Reliability Coordinator identifies one or more days prior to the current day.

The IRO SDT carefully considered the suggested revision, and agrees that the structure suggested is generally preferred; however, the IRO SDT has determined that language as currently written is preferred to maintain the integrity of clarity of the relationship between Requirement R1 and Parts 1.1 and 1.2. Parts 1.1 and 1.2 describe attributes of the final clause of Requirement R1, “that identify actions the Reliability Coordinator shall take or actions the Reliability Coordinator shall direct others to take (up to and including load shedding),” and it is preferable that the Parts which refer to this clause remain proximate to it.

One commenter suggested adding the term “beyond” to the phrase “prior to the current day,” such that the phrase would be revised to “beyond prior to the current day,” reasoning that the term yesterday is one day prior to the current day and; therefore, the day before yesterday is more than one day prior to today.

The IRO SDT considered the suggested revision; however, the IRO SDT has determined that language as currently written adequately reflects the intent of the IRO SDT that IRO-009-2 Requirement R1 applies to each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day.

One commenter stated that, during the last comment period, the comment was provided that proposed IRO-009-2 references an IROL Violation Report in EOP-004-1, which is retired, and that the SDT responded IRO-009-2 should not should not contain a reference to a retired document. That commenter noted that the term “IROL Violation Report” is referenced in proposed IRO-009-2.

The IRO SDT agrees, and has modified the standard to address this issue.

One commenter noted that the “v” in Tv was not consistently subscripted throughout the document.

The IRO SDT agrees that the term “T<sub>v</sub>” should be consistently rendered throughout the document, and has implemented the appropriate revisions.

At least one commenter recommended revisions to the VSL for R3, stating the revision was needed for consistency with the language of Requirement R3, while noting that there is language included in the requirement that is not included in the associated VSL.

The IRO SDT has carefully considered the suggested revision and has determined that the VSL should remain as written, because the singular condition of whether or not the IROL exceedance was mitigated within the IROL's  $T_v$  identifies the severity level of this requirement.

One commenter recommended that the phrase “(up to and including load shedding)” be revised to “(up to and including load shedding for IROL exceedances),” indicating that the current phrase may imply that load shedding is a mandatory action to prevent an IROL exceedance. Load shedding should be an option at the system operator's disposal, but it should not be required.

Proposed IRO-009-2 Requirement R1 is drafted with the understanding that load shedding is an action that the Reliability Coordinator must consider in the development of its Operating Processes, Procedures, or Plans to prevent an IROL exceedance.

One commenter indicated that the implementation plans for both standards include a reference that the prior implementation plan is incorporated by reference and a link is provided. Unless the standards are still in implementation, these references are not necessary and may confuse some entities implementing the standard. We encourage the SDT to remove the language unless it is needed for implementation.

The incorporation by reference language has been removed from the Implementation plan as suggested.

At least one commenter raised the issue that, as IRO-009-1: R1 refers to ‘Operating Processes, Procedures, or Plans that identify actions...’...R2 refers to ‘...one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1).....why wouldn’t every potential process, procedure or plan available as an option in R2 also be included in R1?...in other words if its available for R2 should it not also be an ‘action’ available for R1?

The IRO SDT has revised IRO-009-1 R1 and R2 to be combined into proposed IRO-009-2 R1 with two subparts. The IRO SDT agrees that the Operating Processes, Procedures or Plans developed to prevent IROL exceedances may be the same as those for mitigating and alleviating an IROL exceedance, however, the IRO SDT has provided latitude for an entity to have different Operating Processes, Procedures or Plans as necessary since system conditions can vary requiring alternate Operating Processes, Procedures or Plans to be utilized.

At least one commenter stated that, since Requirement R2 specifies that operating processes, procedures and plans not be limited to those developed in R1, and since R3 makes no reference to R1, the Measures M2 and M3 should not refer to R1 when enumerating types of evidence.

The IRO SDT agrees that the reference to Requirement R1 is not needed in Measure M3, and has removed this reference. The IRO SDT has determined that the reference to Requirement R1 is prudent in Measure M2, however, because of the parenthetical statement in Requirement R2 that refers to Requirement R1: “(not limited to the Operating Processes, Procedures, or Plans developed for Requirement R1).”

More than one commenter stated that, as R2 calls for the RC to initiate one or more Operating Processes, Procedures and Plans..., the VSL should take into account that the RC may have only initiated one of the many necessary procedures or plans to prevent the IROL exceedance, and that presently the VSL only considers no Operating Processes, Plans or Procedures initiated.

The IRO SDT agrees that the VSL for Requirement R2 considers only whether or not the RC initiated an Operating Process, Procedure, or Plan. The issue of the failure of the RC to mitigate the IROL within the IROL’s  $T_v$  is addressed by Requirement R3.

## Questions

1. The IRO SDT recommends retiring IRO-006-EAST-1 Requirement R1. Do you agree with the retirement of IRO-006-EAST-1 Requirement R1? If not, please explain specifically what aspects of the retirement you disagree with.
2. The IRO SDT recommends revising IRO-006-EAST-1 Requirement R2. Do you agree with the proposed revisions to IRO-006-EAST-1 Requirement R2? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.
3. The IRO SDT recommends retiring IRO-006-EAST-1 Requirement R3. Do you agree with the retirement of IRO-006-EAST-1 Requirement R3? If not, please explain specifically what aspects of the retirement you disagree with.
4. The IRO SDT recommends revising IRO-006-EAST-1 Requirement R4. Do you agree with the proposed revisions to IRO-006-EAST-1 Requirement R4? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.
5. The IRO SDT recommends revising IRO-009-1 Requirement R1 to include elements of IRO-009-1 Requirement R2. Do you agree with the proposed revisions to IRO-009-1 Requirement R1? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.
6. The IRO SDT recommends revising IRO-009-1 Requirement R3. Do you agree with the proposed revisions to IRO-009-1 Requirement R3? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.
7. The IRO SDT recommends revising IRO-009-1 Requirement R4. Do you agree with the proposed revisions to IRO-009-1 Requirement R4? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.
8. The IRO SDT recommends revising IRO-009-1 Requirement R5. Do you agree with the proposed revisions to IRO-009-1 Requirement R5? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.
9. If you have any other comments that you have not already mentioned above, please provide them here:

**The Industry Segments are:**

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

**Group Information**

Full Name	Entity Name	Segment	Region	Group Name	Group Member Name	Group Member Organization	Region	Group Member Segment(s)
Colby Bellville	Duke Energy	1,3,5,6	FRCC,SERC,RFC	Duke Energy	Doug Hils	Duke Energy	RFC	1
					Lee Schuster	Duke Energy	FRCC	3
					Dale Goodwine	Duke Energy	SERC	5
					Greg Cecil	Duke Energy	RFC	6
Chris Scanlon	Exelon	1		Exelon Utilities	Chris Scanlon	BGE, ComEd, PECO TO's	RFC	1
					John Bee	BGE, ComEd, PECO LSE's	RFC	3

Full Name	Entity Name	Segment	Region	Group Name	Group Member Name	Group Member Organization	Region	Group Member Segment(s)
R. Scott Moore	Southern Company - Alabama Power Company	3		Manage Group	John Ciza	Southern Company Generation and Energy Marketing	SERC	6
					Bob Schaffeld	Southern Company Services, Inc.	SERC	1
					Bill Shultz	Southern Company Generation	SERC	5
					Scott Moore	Alabama Power Company	SERC	3
					Rob Watson	Choctaw Generation Limited Partnership, LLLP	SERC	5
Emily Rousseau	MRO	1,2,3,4,5,6	MRO	MRO- NERC Standards Review Forum (NSRF)	Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
					Amy Casucelli	Xcel Energy	MRO	1,3,5,6
					Chuck Lawrence	American Transmission Company	MRO	1

Full Name	Entity Name	Segment	Region	Group Name	Group Member Name	Group Member Organization	Region	Group Member Segment(s)
					Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
					Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
					Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
					Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
					Jodi Jenson	Western Area Power Administration	MRO	1,6
					Larry Heckert	Alliant Energy	MRO	4
					Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
					Marie Knox	Midwest ISO Inc.	MRO	2
					Mike Brytowski	Great River Energy	MRO	1,3,5,6
					Randi Nyholm	Minnesota Power	MRO	1,5

Full Name	Entity Name	Segment	Region	Group Name	Group Member Name	Group Member Organization	Region	Group Member Segment(s)
					Scott Nickels	Rochester Public Utilities	MRO	4
					Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
					Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
					Tony Eddleman	Nebraska Public Power District	MRO	1,3,5
Lee Pedowicz	Northeast Power Coordinating Council	10	NPCC	NPCC-- Project 2015-06	Alan Adamson	New York State Reliability Council, LLC	NPCC	10
					David Burke	Orange and Rockland Utilities Inc.	NPCC	3
					Greg Campoli	New York Independent System Operator	NPCC	2
					Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1



Full Name	Entity Name	Segment	Region	Group Name	Group Member Name	Group Member Organization	Region	Group Member Segment(s)
					Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
					Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
					Mark Kenny	Northeast Utilities	NPCC	1
					Helen Lainis	Independent Electricity System Operator	NPCC	2
					Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
					Paul Malozewski	Hydro One Networks Inc.	NPCC	1
					Bruce Metruck	New York Power Authority	NPCC	6
					Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10

Full Name	Entity Name	Segment	Region	Group Name	Group Member Name	Group Member Organization	Region	Group Member Segment(s)
					Robert Pellegrini	The United Illuminating Company	NPCC	1
					Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
					David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
					Brian Robinson	Utility Services	NPCC	8
					Wayne Sipperly	New York Power Authority	NPCC	5
					Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
					Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
					Michael Jones	National Grid	NPCC	1
					Brian Shanahan	National Grid	NPCC	1
					Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
					Glen Smith	Entergy Services, Inc.	NPCC	5

Full Name	Entity Name	Segment	Region	Group Name	Group Member Name	Group Member Organization	Region	Group Member Segment(s)
					Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
					RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
					Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
					Kathleen Goodman	ISO - New England	NPCC	2
					Guy Zito	Northeast Power Coordinating Council	NPCC	10
Shannon Mickens	Southwest Power Pool, Inc. (RTO)	2	SPP	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool Inc.	SPP	2
					James Nail	City of Independence, Missouri	SPP	3,5
					Jason Smith	Southwest Power Pool Inc.	SPP	2

Full Name	Entity Name	Segment	Region	Group Name	Group Member Name	Group Member Organization	Region	Group Member Segment(s)
					Mahmood Safi	Omaha Public Power District	MRO	1,3,5
Kathleen Goodman	ISO New England, Inc.	2	NPCC	Standards Review Committee (SRC)	Charles Yeung	SPP	SPP	2
					Ben Li	IESO	NPCC	2
					Greg Campoli	NYISO	NPCC	2
					Matthew Goldberg	ISO-NE	NPCC	2
					Christina Bigelow	ERCOT	TRE	2
					Terry Bilke	MISO	MRO	2
					Al Dicaprio	PJM	RFC	2

**1. The IRO SDT recommends retiring IRO-006-EAST-1 Requirement R1. Do you agree with the retirement of IRO-006-EAST-1 Requirement R1? If not, please explain specifically what aspects of the retirement you disagree with.**

**Robert Hirschak - Cleco Corporation - 6 -**

**Selected**          Yes

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:**    Yes

**Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC**

**Likes:** 1 Hydro-Quebec TransEnergie, 1, Boisvert Martin

**Dislikes:** 0

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**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

**Anthony Jablonski - ReliabilityFirst - 10 -**

**Selected Answer:** Yes

**Answer****Comment:**

ReliabilityFirst agrees that the recommended changes in the IRO-006-East draft standard are consistent with the five year review team recommendations and the overall quality of the language in the standard is improved.

**Response:**

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Selected Answer:** Yes

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

**Selected Answer:** Yes

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**Mike Smith - Manitoba Hydro - 1 -**

**Selected Answer:** Yes



**Jared Shakespeare - Peak Reliability - 1 -**

**Selected Answer:** Yes

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**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

**Selected Answer:** Yes

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Selected Answer:** Yes

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**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6**

-

**Selected Answer:** Yes

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

**Selected Answer:** Yes

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**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Selected Answer:** Yes

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:**

**Answer**  
**Comment:** N/A for Texas RE

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Selected Answer:** No

**Answer**  
**Comment:** The SDT should reconsider retiring R1 because the requirement was added to the standard and worded in such a way to address a FERC directive in Order 693 which asked NERC to clearly include a requirement in the standard that TLR is not an effective means for mitigating IROL violation.

**Response:**

**Leonard Kula - Independent Electricity System Operator - 2 -****Selected Answer:** No**Answer  
Comment:**

**We reiterate the following comments which we submitted in 2013 when the 5-Year Review Team’s recommendations were posted for comment, and in April 2015 when the revised recommendations were posted for comment:**

**We urge the SDT to reconsider retiring R1 since this requirement was added to the standard and worded that way to address a FERC directive in Order 693 which asked NERC to clearly include a requirement in the standard that TLR is not an effective means for mitigating IROL violation.**

**Part excerpt from the Order, Para. 964:**

**[Accordingly, in addition to approving the Reliability Standard, the Commission directs the ERO to develop a modification to IRO-006-3 through the Reliability Standards development process that (1) includes a clear warning that the TLR procedure is an inappropriate and ineffective tool to mitigate actual IROL violations and (2) identifies in a Requirement the available alternatives to mitigate an IROL violation other than use of the TLR procedure.]**

**The language “...prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)” is meant to convey the idea that TLR alone cannot and shall not be used to mitigate IROL exceedances,**

but can be used together with but not prior to other (presumably more effective) means. The other means listed in R1 are to provide the list of measures that should be applied before or in conjunction with TRL. Alternatively, they can be referenced by quoting the other standards which contain these measures.

**Response:**

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**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

**Selected Answer:** Yes

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC****Selected Answer:** No**Answer Comment:** TVA basis for selecting "No" is provided in response to question 9.**Response:****Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC****Selected Answer:****Answer Comment:** N/A**Response:****Likes:** 0**Dislikes:** 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP****Selected Answer:** No**Answer  
Comment:**

We agree with the SDT that if Requirement R1 of IRO-006-East-1 presents a redundancy issue (Paragraph 81) in reference to IRO-008-1 Requirement R3, and IRO-009-1 Requirement R4 and it should be retired. However, in your background information of the comment form (second paragraph last sentence), you mentioned that project 2014-03 (Revisions to TOP and IRO Standards) retired the IRO-008-1 standard. We would suggest to the IRO-SDT the removal of this phrase (IRO-008-1 and its Requirement R3 redundancy issues) from your **Rationale for recommendation to retire Requirement R1**. As we reviewed the NERC site it shows that this standard is ***subject to enforcement***, we have a concern that this information presents an inaccuracy and would ask the drafting team to provide some clarity on the status of the IRO-008-1.

**Response:**



**Scott McGough - Georgia System Operations Corporation - 3 -**

**Selected Answer:** Yes

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**christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -**

**Selected Answer:** No

**Answer**

**Comment:**

ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Response:**

**2. The IRO SDT recommends revising IRO-006-EAST-1 Requirement R2. Do you agree with the proposed revisions to IRO-006-EAST-1 Requirement R2? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:** Yes

**Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC**

**Selected Answer:**

**Answer**

**Comment:**

**Response:**

**Likes:** 1 Hydro-Quebec TransEnergie, 1, Boisvert Martin

Dislikes: 0

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

**Anthony Jablonski - ReliabilityFirst - 10 -****Selected Answer:** No**Answer****Comment:**

ReliabilityFirst does offer a consideration regarding IRO-006-EAST-2 R2 to clearly identify which entity the 15 minutes apply to. As written, it can be left to interpretation whether the 15 minute timeframe applies to the Sink Balancing Authority or Reliability Coordinator. ReliabilityFirst offers the following modified language for consideration:

“Each Reliability Coordinator shall instruct the Sink Balancing Authority (for Sink Balancing Authorities that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure) to implement the congestion management actions within 15 minutes of receiving the request from the issuing Reliability Coordinator...”

**Response:**

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Selected Answer:** Yes

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

**Selected Answer:** Yes

**Martin Boisvert - Hydro-Quebec TransEnergie - 1 -**

**Selected Answer:**

**Answer**

**Comment:** N/A

**Response:**

**Mike Smith - Manitoba Hydro - 1 -**

**Selected Answer:** Yes

**Terry Blilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc., 2**

**Selected Answer:** No

**Answer  
Comment:**

The SRC is concerned with the retirement of Requirement R1, as it pertains to a directive in Order 693:

"(1) includes a clear warning that a TLR procedure is an inappropriate and ineffective tool to mitigate IROL violations; (2) identifies in a Requirement the available alternatives to use of the TLR procedure to mitigate an IROL violation and;....."

The SRC respectfully suggests that SDT vet the retirement of Requirement R1 with appropriate ERO and FERC liaisons to ensure that its removal would not result in reissuance of a similar directive. An alternative approach would be to revise Requirement R2 to provide:

Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance shall: (1) prior to or concurrent with such initiation, evaluate and initiate alternatives to address such exceedance, (2) identify the TLR level and the congestion management actions to be implemented, and (3) update this information at least every clock hour (except TLR-1) after initiation up to and including the hour when the TLR level has been identified as TLR Level 0

**Response:**

**Jared Shakespeare - Peak Reliability - 1 -**

**Selected Answer:** No

**Answer Comment:** “(up to and including load shedding)” should be “(up to and including load shedding for IROL exceedances)”. Current wording could suggest that load shedding is a mandatory action to prevent an IROL exceedance. Load shedding should be an option at the system operator's disposal to prevent load shedding, but it should not be required.



Response:

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

**Selected Answer:** Yes

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Selected Answer:** Yes

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

**Selected Answer:** Yes

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

**Selected Answer:** Yes

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Selected Answer:** Yes

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:**

**Answer**

**Comment:** N/A for Texas RE

**Response:**

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Selected Answer:** No

**Answer**

**Comment:** Where is the RC to update the TLR implementation information? The update of “at least every clock hour” is the minimum. The implementation information should be updated as system conditions change. Suggest changing the wording to:

“...and shall update this information as changes in system warrant deliberate changes to the in force implemented TLR procedure, and at least hourly...”

**Response:**

**Leonard Kula - Independent Electricity System Operator - 2 -**

**Selected Answer:** Yes

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

**Selected Answer:** Yes

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Selected Answer:** No

**Answer Comment:** TVA basis for selecting "No" is provided in response to question 9.

**Response:**

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:**

**Answer**  
**Comment:** N/A

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Selected Answer:** Yes

**Answer**  
**Comment:** We would suggest to the SDT to coordinate efforts with the FAC Review Team/SDT along with the Alignment of Terms (Project 2015-04) SDT to ensure that the term 'System Operating Limit-SOL' is correctly defined and aligned with all relevant documentation such as: the Functional Model, Glossary of Terms and the Rules of Procedure (RoP). Additionally, we would ask the drafting team to provide clarity on where should the TLR levels and congestion management actions will need to be updated.

**Response:**

**Scott McGough - Georgia System Operations Corporation - 3 -**

**Selected Answer:** Yes



christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

**Selected Answer:** Yes

**Answer**

**Comment:** ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Response:**

**3. The IRO SDT recommends retiring IRO-006-EAST-1 Requirement R3. Do you agree with the retirement of IRO-006-EAST-1 Requirement R3? If not, please explain specifically what aspects of the retirement you disagree with.**

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:** Yes

**Answer  
Comment:**

**Response:**

**Likes:** 0

**Dislikes:** 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Selected Answer:** Yes

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

**Selected Answer:** Yes

**Mike Smith - Manitoba Hydro - 1 -**

**Selected Answer:** Yes

**Terry Blilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc., 2**

**Selected Answer:** Yes

**Answer  
Comment:**

The SRC agrees with the retirement, but requests clarification that it is the SDT's position that, in the event of an IDC failure, TLR action will be very limited or unavailable, requiring manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System. If this is the SDT's intent, the SRC suggests the SDT add a condition in R1 (previously R2), to read as follows (addition in square brackets):

R1. Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure [through the Interchange Distribution Calculator (IDC)] to prevent or mitigate an SOL or IROL exceedance shall identify.....

This addition will address ambiguity regarding whether TLRs must be implemented when the IDC is unavailable

**Response:**

**Jared Shakespeare - Peak Reliability - 1 -**

**Selected Answer:** Yes

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

**Selected Answer:** Yes

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Selected Answer:** Yes

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

**Selected Answer:** Yes

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

**Selected Answer:** Yes



**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Selected Answer:** Yes

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:**

**Answer  
Comment:** N/A for Texas RE

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Selected Answer:** No

**Answer**

**Comment:**

If the acronym IDC is to stay with the standard, it should be spelled out at its initial usage, with the acronym being used subsequently.

Suggest not using the word “ensure” in the Purpose. Consider revising the wording of the Purpose to:

To coordinate action between Reliability Coordinators within the Eastern Interconnection when implementing transmission loading relief procedures (TLR) for the Eastern Interconnection to prevent or manage potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).

The SDT should consider the following:

- a.** The need for this requirement was debated at length when the standard was posted for commenting and balloting in 2009. In the end, the vast majority of the industry supported the notion that such actions would be required in the event that the IDC became unavailable. Also, there was the issue with respect to who would be held responsible for communicating these actions given that it was not appropriate for the

vendor of IDC to assume this responsibility and ensure the correctness of the communicated actions.

**b.** If the SDT's position is that in the event of an IDC failure, TLR action will be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System, then we suggest the SDT to add a condition in R1 (previously R2), to read as follows (addition in square brackets):

R1. Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure [through the Interchange Distribution Calculator (IDC)] to prevent or mitigate an SOL or IROL exceedance shall identify.....

This will effectively remove the need to implement TLRs when the IDC is unavailable.

Add the above wording to R2 to address the situation when IDC is not available.

**Response:**

**Leonard Kula - Independent Electricity System Operator - 2 -****Selected Answer:****Answer****Comment:**

We are indifferent to the proposal, but suggest that the SDT carefully consider the following:

a. The need for this requirement was debated at length when the standard was posted for commenting and balloting in 2009. In the end, the vast majority of the industry supported the notion that such actions would be required in the event that the IDC became unavailable. Also, there was the issue with respect to who would be held responsible for communicating these actions given that it was not appropriate for the vendor of IDC to take up this responsibility and ensure the correctness of the communicated actions.

b. If the SDT's position is that in the event of an IDC failure, TLR action will be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System, then we suggest the SDT to add a condition in R1 (previously R2), to read as follows (addition in square brackets):

R1. Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure [through the Interchange Distribution Calculator (IDC)] to prevent or mitigate an SOL or IROL exceedance shall identify.....

This will effectively remove the need to implement TLRs when the IDC is unavailable.

We therefore suggest the SDT to either keep the requirement R3 as is, or add the above wording to R2 to address the situation when IDC is not available.

**Response:**

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

**Selected Answer:** Yes

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Selected Answer:** No

**Answer**

**Comment:** TVA basis for selecting "No" is provided in response to question 9.

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:**

**Answer**

**Comment:** N/A

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Selected Answer:** Yes

**Scott McGough - Georgia System Operations Corporation - 3 -**

**Selected Answer:** Yes

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

**Selected Answer:** Yes

**Answer**

**Comment:** ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Response:**



**4. The IRO SDT recommends revising IRO-006-EAST-1 Requirement R4. Do you agree with the proposed revisions to IRO-006-EAST-1 Requirement R4? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:** Yes

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Selected Answer:** Yes

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

**Selected Answer:** No

**Answer**

**Comment:**

To provide clarity around the 15 minute time frame suggest rewording the requirement as below:

"Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority, within 15 minutes of receiving the request from the issuing Reliability Coordinator, to implement the congestion management actions."

Request the requirement be reworded to more clearly identify if the 15 minutes is the required time for the RC to instruct the Sink BA or is the BA expected to implement actions within 15 minutes?

If the 15 minutes is the time requirement for the RC to instruct the Sink BA, then a time frame also should be identified for when the BA has to implement actions. This time requirement should also apply to the GOP.

We request the SDT consider adding time requirements to specify when the Sink BA and associated GOPs should have curtailment actions completed.

We understand this would require adding BA, TOP, and GOP to be applicable to the standard.

To provide clarity around the 15 minute time frame suggest rewording the exception as below:

Should an assessment determines shows that one or more of the congestion management actions communicated in Requirement R3, Part 3.3 will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions, **within 15 minutes of receiving the request**, with the issuing Reliability Coordinator.

This also further agrees with the associated VSL

**Response:**

**Martin Boisvert - Hydro-Quebec TransEnergie - 1 -**

**Selected Answer:**

**Answer**

**Comment:** N/A

**Mike Smith - Manitoba Hydro - 1 -**

**Selected Answer:** Yes

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc., 2**

**Selected Answer:** Yes

**Jared Shakespeare - Peak Reliability - 1 -**

**Selected Answer:** Yes

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Selected Answer:** Yes

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

**Selected Answer:** Yes

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

**Selected Answer:** Yes

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

**Selected Answer:** No

**Answer**

**Comment:**

Duke Energy requests clarification from the SDT regarding the wording in the proposed R4. As currently written, it is not entirely clear as to what/who is attributable to the given 15 minute timeframe. Is the 15 minute timeframe attributable to the RC, and requires the RC to instruct the Sink BA to implement congestion management actions within 15 minutes of receiving the request from an issuing RC? Or, is the 15 minute timeframe attributable to the Sink BA, requiring the Sink BA to implement the congestion management actions within 15 minutes of receiving instruction from its RC?

Alternative language that could help to add clarity to the requirement is dependent upon the answer to our question above.

**Response:**



**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:**

**Answer**

**Comment:** N/A for Texas RE

**Response:**

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Selected Answer:** Yes

**Leonard Kula - Independent Electricity System Operator - 2 -**

**Selected Answer:** Yes

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

**Selected Answer:** Yes

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Selected Answer:** No

**Answer**

**Comment:**

To provide clarity around the 15 minute time frame suggest rewording the requirement as below:

"

Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority, within 15 minutes of receiving the request from the issuing Reliability Coordinator, to implement the congestion management actions."

Request the requirement be reworded to more clearly identify if the 15 minutes is the required time for the RC to instruct the Sink BA or is the BA expected to implement actions within 15 minutes?

If the 15 minutes is the time requirement for the RC to instruct the Sink BA, then a time frame also should be identified for when the BA has to implement actions.

We request the SDT consider adding time requirements to specify when the Sink BA should have curtailment actions completed.

We understand this would require adding BA to be applicable to the standard.

To provide clarity around the 15 minute time frame suggest rewording the exception as below:

Should an assessment determine that one or more of the congestion management actions communicated in Requirement R3, Part 3.3 will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions, **within 15 minutes of receiving the request**, with the issuing Reliability Coordinator.

This also further agrees with the associated VSL.

**Response:**

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:**

**Answer**

**Comment:**

N/A

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP****Selected Answer:** Yes**Answer****Comment:**

The review group agrees that there should be some form of revision in reference to Requirement R4. We would suggest to the SDT to include some alternative language to ensure that the Sink Balancing Authority being referenced in this requirement is applicable to the Reliability Coordinator's area. We would suggest the alternative language as followed: 'Each Reliability Coordinator with a Sink Balancing Authority (with in the Reliability Coordinator's area) that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority (with in the Reliability Coordinator's area) to implement the congestion management actions within 15 minutes of receiving the request from the issuing'. The suggested alternative term 'area' was taken from page 6 of Requirement R2 **Registered Entity Response** section of the RSAW if you review the first sentence in reference to **Question**. Additionally, we would suggest to the drafting team to provide some form of examples to help give more clarity on what type of assessment(s) they are referring to in the bullet. Providing proof of an assessment can be challenging depending on the issue. The use of the term 'assessment' may need to be reviewed.

**Response:**

**Scott McGough - Georgia System Operations Corporation - 3 -**

**Selected Answer:** No

**Answer****Comment:**

To provide clarity around the 15 minute time frame suggest rewording the requirement as below:

“Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall instruct the Sink Balancing Authority, within 15 minutes of receiving the request from the issuing Reliability Coordinator, to implement the congestion management actions.”

Request the requirement be reworded to more clearly identify if the 15 minutes is the required time for the RC to instruct the Sink BA or is the BA expected to implement actions within 15 minutes?

If the 15 minutes is the time requirement for the RC to instruct the Sink

BA, then a time frame also should be identified for when the BA has to implement actions. This time requirement should also apply to the GOP. We request the SDT consider adding time requirements to specify when the Sink BA and associated GOPs should have curtailment actions completed.

We understand this would require adding BA, TOP, and GOP to be applicable to the standard.

To provide clarity around the 15 minute time frame suggest rewording the exception as below:

Should an assessment determines shows that one or more of the congestion management actions communicated in Requirement R3, Part 3.3 will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions, within 15 minutes of receiving the request, with the issuing Reliability Coordinator.

This also further agrees with the associated VSL

**Response:**

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

**Selected Answer:** Yes

**Answer**

**Comment:** ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Response:**



**5. The IRO SDT recommends revising IRO-009-1 Requirement R1 to include elements of IRO-009-1 Requirement R2. Do you agree with the proposed revisions to IRO-009-1 Requirement R1? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer

Comment:

Response:

Likes: 0

Dislikes: 0

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Selected Answer:** Yes

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

**Selected Answer:** Yes

**Martin Boisvert - Hydro-Quebec TransEnergie - 1 -**

**Selected Answer:**

**Answer**

**Comment:** Please see the comments submitted by Si Truc Phan, **On Behalf of:**  
Hydro-Quebec TransEnergie, NPCC, Segments 1

**Response:**

**Mike Smith - Manitoba Hydro - 1 -**

**Selected Answer:** Yes

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc., 2

**Selected Answer:** No

**Answer  
Comment:**

a) The SRC (note, ERCOT does not support this comment) has concerns with the clarity of the existing wording in Requirement R1. Specifically, it suggests that the following phrase be revised for clarity:

from

“For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day...”

to

“For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies through its Operational Planning Analysis...”

b) The SRC agrees with the proposed changes, but suggests to revise Part 1.2 as follows to improve clarity (added word in square bracket):

"1.2 To mitigate the magnitude and duration of an IROL exceedance such that the IROL [exceedance] is relieved within the IROL's Tv."

The added word is needed since an IROL is a limit, whose relief is not required; but its exceedance needs to be relieved.

c) There are two “that’s” in Measure M1. The measure should be revised to remove the additional “that.”

**Response:**

**Jared Shakespeare - Peak Reliability - 1 -**

**Selected Answer:** Yes

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

**Selected Answer:** Yes

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Selected Answer:** Yes

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

**Selected Answer:** Yes

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

**Selected Answer:** Yes



**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Selected Answer:** Yes

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:** Yes

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Selected Answer:** No

**Answer**

**Comment:**

To be consistent with in place standard formatting, Requirement R1 should be revised to read:

R1. Each Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it the Reliability Coordinator shall take, or actions it shall direct others to take for each IROL that the Reliability Coordinator identifies one or more days prior to the current day.

We agree with the proposed changes, but suggest rewording Part 1.2 as follows to improve clarity (added word in square bracket):

1.2 To mitigate the magnitude and duration of an IROL exceedance such that the IROL [exceedance] is relieved within the IROL's Tv.

The added word is needed since IROL is a limit, whose relief is not required; but its exceedance needs to be relieved.

**Response:**

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

**Selected Answer:** Yes

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Selected Answer:** Yes

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:** Yes

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Selected Answer:** Yes

**Scott McGough - Georgia System Operations Corporation - 3 -**

**Selected Answer:** Yes

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

**Selected Answer:** Yes

**Answer**

**Comment:** ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Response:**

**6. The IRO SDT recommends revising IRO-009-1 Requirement R3. Do you agree with the proposed revisions to IRO-009-1 Requirement R3? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:** Yes

**Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC**

**Selected Answer:**

**Answer**

**Comment:**

**Response:**

**Likes:** 1 Hydro-Quebec TransEnergie, 1, Boisvert Martin

Dislikes: 0

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes



**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Selected Answer:** Yes

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

**Selected Answer:** Yes

**Martin Boisvert - Hydro-Quebec TransEnergie - 1 -**

**Selected Answer:**

**Answer**

**Comment:**

Please see the comments submitted by Si Truc Phan, **On Behalf of:**  
Hydro-Quebec TransEnergie, NPCC, Segments 1

**Mike Smith - Manitoba Hydro - 1 -**

**Selected Answer:** Yes

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc., 2**

**Selected Answer:** Yes

**Jared Shakespeare - Peak Reliability - 1 -**

**Selected Answer:** Yes

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

**Selected Answer:** Yes

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Selected Answer:** Yes

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

**Selected Answer:** Yes

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

**Selected Answer:** Yes

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Selected Answer:** Yes

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:** Yes

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Selected Answer:** Yes

**Leonard Kula - Independent Electricity System Operator - 2 -**

**Selected Answer:** Yes

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

**Selected Answer:** Yes



**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Selected Answer:** Yes

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:** Yes

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Selected Answer:** Yes

**Scott McGough - Georgia System Operations Corporation - 3 -**

**Selected Answer:** Yes

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

**Selected Answer:** Yes

**Answer**

**Comment:** ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Response:**

**7. The IRO SDT recommends revising IRO-009-1 Requirement R4. Do you agree with the proposed revisions to IRO-009-1 Requirement R4? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:** Yes

**Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC**

**Selected Answer:**

**Answer**

**Comment:**

**Response:**

**Likes:** 1 Hydro-Quebec TransEnergie, 1, Boisvert Martin

Dislikes: 0

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Selected Answer:** Yes

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

**Selected Answer:** Yes

**Martin Boisvert - Hydro-Quebec TransEnergie - 1 -**

**Selected Answer:**

**Answer**

**Comment:**

Please see the comments submitted by Si Truc Phan, **On Behalf of:**  
Hydro-Quebec TransEnergie, NPCC, Segments 1

**Mike Smith - Manitoba Hydro - 1 -**

**Selected Answer:** Yes

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc., 2**

**Selected Answer:** Yes



**Jared Shakespeare - Peak Reliability - 1 -**

**Selected Answer:** Yes

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

**Selected Answer:** Yes

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Selected Answer:** Yes

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

**Selected Answer:** Yes

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

**Selected Answer:** Yes

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Selected Answer:** Yes

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:** Yes

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Selected Answer:** Yes

**Leonard Kula - Independent Electricity System Operator - 2 -**

**Selected Answer:** Yes

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

**Selected Answer:** Yes

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Selected Answer:** Yes

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:** Yes

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Selected Answer:** Yes

**Scott McGough - Georgia System Operations Corporation - 3 -**

**Selected Answer:** Yes

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

**Selected Answer:** Yes

**Answer**

**Comment:** ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Response:**



**8. The IRO SDT recommends revising IRO-009-1 Requirement R5. Do you agree with the proposed revisions to IRO-009-1 Requirement R5? If not, please explain specifically what aspects of the revisions you disagree with and propose alternative language.**

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:** Yes

**Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC**

**Selected Answer:**

**Answer**

**Comment:**

**Response:**

**Likes:** 1 Hydro-Quebec TransEnergie, 1, Boisvert Martin

Dislikes: 0

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Selected Answer:** Yes

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

**Selected Answer:** Yes

**Martin Boisvert - Hydro-Quebec TransEnergie - 1 -**

**Selected Answer:**

**Answer**

**Comment:**

Please see the comments submitted by Si Truc Phan, **On Behalf of:**  
Hydro-Quebec TransEnergie, NPCC, Segments 1N/A

**Mike Smith - Manitoba Hydro - 1 -**

**Selected Answer:** Yes

**Terry Bilke - Midcontinent ISO, Inc. - 2 -**

**Selected Answer:** Yes

**Kathleen Goodman - ISO New England, Inc. On Behalf of: Michael Puscas, ISO New England, Inc., 2**

**Selected Answer:** Yes

**Jared Shakespeare - Peak Reliability - 1 -**

**Selected Answer:** Yes

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

**Selected Answer:** Yes

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Selected Answer:** Yes

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

**Selected Answer:** Yes

**Rob Watson - Choctaw Generation Limited Partnership, LLLP - 5 -**

**Selected Answer:** Yes

**Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

**Selected Answer:** Yes



**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:** Yes

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Selected Answer:** Yes

**Leonard Kula - Independent Electricity System Operator - 2 -**

**Selected Answer:** Yes

**Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC**

**Selected Answer:** Yes

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Selected Answer:** Yes

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:** Yes

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Selected Answer:** Yes

**Scott McGough - Georgia System Operations Corporation - 3 -**

**Selected Answer:** Yes

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

**Selected Answer:** Yes

**Answer**

**Comment:** ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Response:**

9. *If you have any other comments that you have not already mentioned above, please provide them here:*

Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC

Selected Answer:

Answer

Comment:

Response: Comments regarding Standard IRO-009.docx

Likes: 1 Hydro-Quebec TransEnergie, 1, Boisvert Martin

Dislikes: 0

**Anthony Jablonski - ReliabilityFirst - 10 -****Selected Answer:****Answer****Comment:**

ReliabilityFirst agrees that the recommended changes in the IRO-009 draft standard are consistent with the five year review team recommendations and the overall quality of the language in the standard is improved.

**Response:****Chris Scanlon - Exelon - 1 -****Selected Answer:****Answer****Comment:**

The implementation plans for both standards include a reference that the prior implementation plan is incorporated by reference and a link is provided. Unless the standards are still in implementation, these references are not necessary and may confuse some entities

implementing the standard. We encourage the SDT to remove the language unless it is needed for implementation.

**Response:**

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Selected Answer:**

**Answer**

**Comment:**

The drafting team did a good job of removing redundancies and adding clarity.

There is an apparent bug in the existing wording of IRO-009 that the team might consider changing. The current wording is: "For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day..."



Yesterday is one day prior to the current day. The day before yesterday is more than one day prior to today. Seems like better wording would be: "For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies beyond prior to the current day..."

**Response:**

**Martin Boisvert - Hydro-Quebec TransEnergie - 1 -**

**Selected Answer:**

**Answer**

**Comment:**

Please see the comments submitted by Si Truc Phan, **On Behalf of:** Hydro-Quebec TransEnergie, NPCC, Segments 1

**Response:**

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -****Selected Answer:****Answer****Comment:**

During the last comment period, Texas RE pointed out that IRO-009-2 references an IROL Violation Report in EOP-004-1, which is retired. The SDT responded IRO-009-2 should not contain a reference to a retired document. It still appears that there is a reference to the Violation Report in section 1.1 Evidence Retention and Section 1.3 Additional Compliance Information.

Additionally, Texas RE noticed that the “v” in Tv was not consistently subscripted throughout the document.

Texas RE recommends changing the VSL for R3 so that it is consistent with the R3 language. For example, the standard language indicates that the Reliability Coordinator *shall act or direct others to act* to mitigate the IROL within its Tv, which the proposed VSL does not explicitly reflect. Therefore, Texas RE recommends the following revisions to the VSL for R3:

Severe – Actual system conditions showed that there was an IROL exceedance in its Reliability Coordinator Area, the Reliability Coordinator did not act, or direct others to act and the IROL exceedance was not mitigated within the IROL’s Tv.

**Response:**

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

**Selected Answer:**

**Answer**

**Comment:**

Regarding IRO-009-1: R1 refers to 'Operating Processes, Procedures, or Plans that identify actions....' ...R2 refers to ' ....one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1).....why wouldn't every potential process, procedure or plan available as an option in R2 also be included in R1?....in other words if its available for R2 should it not also be an 'action' available for R1?

Remove the second “that” from Measure M1 to have it read”... along with one or more dated Operating Processes, Procedures, or Plans that will be used.”

Since Requirement R2 specifies that operating processes, procedures and plans not be limited to those developed in R1, and since R3 makes no reference to R1, the Measures M2 and M3 should not refer to R1 when enumerating types of evidence.

R2 calls for RC to initiate one or more Operating Processes, Procedures and Plans... Therefore, the VSL should take into account that the RC may have only initiated one of the many necessary procedures or plans to prevent the IROL exceedance. Presently the VSL only considers no Operating Processes, Plans or Procedures initiated.

Add the following text either to Severe VSL or High VSL: The RC did not initiate all Operating Processes, Procedures and Plans that could have prevented an IROL exceedance.

**Response:**

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

**Selected Answer:**

**Answer**

**Comment:**

Overall, we agree with the proposed changes as simple refinements of the standards that do not change the basic reliability requirements. However, we do note that the language for TLR-6 in the supplemental material could be redundant with TLR-3a, TLR-3b, TLR-5a, and TLR-5b. TLR-6 indicates there is a Transmission Facility is currently exceeding or is expect to exceed its SOL or IROL. These same conditions apply to TLR-3a, TLR-3b, TLR-5a, and TLR-5b with the exception that those levels describe whether non-firm and firm curtailments are sufficient to mitigate the exceedance. TLR-6 should only be issued when complete curtailment of firm and non-firm interchange transactions are insufficient to mitigate and SOL or IROL exceedance and additional emergency actions may be warranted for complete mitigation. The description should be updated to reflect this statement.

**Response:**

**Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC****Selected Answer:****Answer****Comment:**

IRO-006-EAST is the Transmission Loading Relief Procedure for the Eastern Interconnection. Currently the procedure is only applicable to the Reliability Coordinator. For TLR process to work in a reliable, predictable and consistent manner, the standard also needs to be applicable to the Balancing Authority. Without the cooperation of the BA the relief that is needed to keep the transmission system reliable isn't guaranteed to arrive as the requesting RCs are expecting. As the make-up of the Eastern Interconnection has changed over the years, the timing for relief provided seems to have diverged. The timing of relief provided by tags differs to the timing of relief provided by firm and non-firm market flows differs from the timing of relief provided by generation redispatch to meet NNL curtailment obligations. This lack of consistency and predictability has led to issues when using the TLR process. For example, TVA has experienced times where entities provide the required relief for the current hour well after TVA has had to reissue the TLR for next hour. Reliability Coordinators can't expect to mitigate transmission system exceedences in a timely manner if the TLR process does not provide relief in a timely manner. The standard currently set the expectation that the RC notify the BA of their relief obligation in 15 minutes but is silent on how long the BA has to start meeting their relief obligation and when it is expected to be finished. Some BA have specific rules as to when they will input their relief obligations in their generation redispatch significantly delaying when the RC can expect requested relief. TVA urges the Standard Drafting Team to consider extending the

applicability of this TLR standard to the BA and define consistent timing requirements that all entities have to follow in order to increase the reliability, predictability and usefulness of the TLR process.

Another consideration is that there are times when an immediate change in ACE from a large TLR impact could cause a reliability issue for the BA that is more severe than the issue which caused the TLR to be initiated. The standard needs to be clear on how those conflicting reliability issues should be dealt with. In many cases other alternatives are available which do not cause a reliability issue for any entities.

**Response:**

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:**

**Answer**

**Comment:** N/A

**Response:**

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

**Selected Answer:**

**Answer**

**Comment:** ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee.

**Response:**



**Comments regarding Standard IRO-009-2**  
**(Submitted by Si Truc Phan)**

**Comment 1:** Replace terms such as « mitigate » and « relieve » with « eliminate ».

Considering that an IROL exceedance can lead to widespread outages, it should be required that the IROL exceedance be eliminated within Tv . However when one looks at the vocabulary used in the standard it is much less forceful. The requirements call for reducing or alleviating the IROL exceedance rather than removing it.

The following definitions come from the Merriam-Webster:

**Mitigate:** (*transitive verb*)

- 1 : to cause to become less harsh or hostile : mollify
- 2 a : to make less severe or painful : alleviate  
b : extenuate

Synonyms: allay, alleviate, assuage, ease, help, mollify, palliate, relieve, soothe

**Relieve:** (*transitive verb*)

- 1 a : to free from a burden : give aid or help to  
b : to set free from an obligation, condition, or restriction  
c : to ease of a burden, wrong, or oppression by judicial or legislative interposition
- 2 a : to bring about the removal or alleviation of : mitigate <helps relieve stress>  
b : rob, deprive <relieved us of our belongings>

(...)

Synonyms: allay, alleviate, assuage, ease, mitigate, mollify, palliate, help, soothe

**Comment 2:** Typographical error in Measure M1

M2. (...) along with one or more dated Operating Processes, Procedures, or Plans that ~~that~~ will be used.

**Comment 3:** Measures M2 and M3

Since Requirement R2 specifies that operating processes, procedures and plans not be limited to those developed in R1, and since R3 makes no reference whatsoever to R1, the Measures M2 and M3 should not refer to R1 when enumerating types of evidence.

**M2.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it initiated one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) in accordance with Requirement R2. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans ~~from Requirement R1~~, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**M3.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans ~~from Requirement R1~~, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**Comment 4:** VSL for R2

R2 calls for RC to initiate one or more Operating Processes, Procedures and Plans... Therefore, the VSL should take into account that the RC may have only initiated one of the many necessary procedures or plans to prevent the IROL exceedance. Presently the VSL only considers no Operating Processes, Plans or Procedures initiated.

Add the following text either to Severe VSL or High VSL: The RC did not initiate all Operating Processes, Procedures and Plans that could have prevented an IROL exceedance.

Prepared by: Jeannette Gauthier, Compliance Engineer  
Hydro-Québec TransÉnergie

June 5<sup>th</sup> 2015

**End of Report**

## Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

### Description of Current Draft

This version of Reliability Standard IRO-006-EAST is posted for final ballot to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team (FYRT). That review resulted in a recommended drafting effort, which is being conducted by the Project 2015-06 Interconnection Reliability Operations and Coordination standard drafting team.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	March 11, 2015
SAR posted for comment	March 16 – April 15, 2015
45-day formal comment period with ballot	May 21– July 8, 2015

Anticipated Actions	Anticipated Dates
Final ballot	July 2015
NERC Board of Trustees (Board) adoption	August 2015

### **New or Modified Term(s) Used in NERC Reliability Standards**

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

**Term(s):** None.

The rationale boxes will be moved to the Supplemental Material Section of the standard after the standard is adopted by the NERC Board of Trustees.

## **A. Introduction**

- 1. Title:**           **Transmission Loading Relief Procedure for the Eastern Interconnection**
- 2. Number:**       IRO-006-EAST-2
- 3. Purpose:**      To coordinate action between Reliability Coordinators within the Eastern Interconnection when implementing transmission loading relief procedures (TLR) for the Eastern Interconnection to prevent or manage potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).
- 4. Applicability:**
  - 4.1. Functional Entities:**
    - 4.1.1.** Reliability Coordinators in the Eastern Interconnection
- 5. Effective Date:** See the Implementation Plan for IRO-006-EAST-2.

## **B. Requirements and Measures**

**Rationale for recommendation to retire Requirement R1:** The standard drafting team (IRO SDT) agrees with the FYRT’s assertion that IRO-006-EAST-1 Requirement R1 is redundant with IRO-008-1, Requirement R3, and IRO-009-1, Requirement R4, and that the requirements in IRO-008-1 and IRO-009-1 are results based and specify a reliability objective to be achieved. The IRO SDT further agrees with the FYRT’s conclusion that IRO-006-EAST-1 Requirement R1 simply provides a list of actions to be taken without any parameters for their use.

**Rationale for recommendation to retire Requirement R3:** The IRO SDT agrees with the FYRT’s determination that the intent of Requirement R3 is not to define a curtailment process when the IDC is compromised or unavailable. In the event of an Interchange Distribution Calculator (IDC) failure, Transmission Loading Relief (TLR) action would be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System. The IRO SDT further agrees with the FYRT’s assertion that Requirement R3 contains actions that are automatically generated via the IDC tool and sent to proper entities upon issuance of the TLR. This requirement should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.

**Rationale for revisions to new Requirement R1 (previously Requirement R2):** The IRO SDT provided edits to improve clarity and to incorporate and simplify the sub-requirements into the main requirement.

- R1.** Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance shall identify the TLR level and the congestion management actions to be implemented, and shall update this information at least every clock hour (except TLR-1) after initiation up to and including the hour when the TLR level has been identified as TLR Level 0.<sup>1</sup> [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]
- M1.** Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that at the time it initiated the Eastern Interconnection TLR procedure, and at least every clock hour after initiation up to and including the hour when the TLR level was identified as TLR Level 0, the Reliability Coordinator identified both the TLR Level and a list of congestion management actions to be implemented in accordance with Requirement R1.

**Rationale for Revisions to new Requirement R2 (previously Requirement R4):** The IRO SDT provided edits to improve clarity and to incorporate and simplify some of the bullets into the main requirement, and modified the remaining bullet to be a requirement instead of a passive statement.

- R2.** Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall, within 15 minutes of receiving the request from the issuing Reliability Coordinator, instruct the Sink Balancing Authority to implement the congestion management actions, subject to the following exception: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- Should an assessment determine that one or more of the congestion management actions communicated will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions with the issuing Reliability Coordinator.
- M2.** Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall provide evidence (such as dated logs, voice recordings, or other

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<sup>1</sup> For more information on TLR levels, please see "Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document."

information in electronic or hard-copy format) that within fifteen minutes of the receipt of a request, the Reliability Coordinator complied with the request by either 1) instructing the Sink Balancing Authority to implement the congestion management actions requested by the issuing Reliability Coordinator, or 2) instructing the Sink Balancing Authority to implement none or some of the communicated congestion management actions requested by the issuing Reliability Coordinator, and replacing the remainder with alternate congestion management actions if assessment showed that some or all of the requested congestion management actions would have resulted in a reliability concern or would have been ineffective in accordance with Requirement R2.

## C. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

#### 1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

For Requirement R1 and Requirement R2, the Reliability Coordinator shall maintain evidence to show compliance with Requirement R1 and Requirement R2 for the past 12 months plus the current month.

If a Reliability Coordinator is found non-compliant, it shall keep information related to the non-compliance until found compliant.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

#### 1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

#### 1.4. Additional Compliance Information

None.



### Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
<b>R1.</b>	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for one clock hour during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for two clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for three clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for four or more clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.
<b>R2.</b>				The responding Reliability Coordinator did not, within 15 minutes of receiving a request, either 1) instruct the Sink Balancing Authority to implement all the requested congestion management actions, or 2) coordinate alternate congestion management actions with the issuing Reliability Coordinator,

				provided that: assessment showed that the actions replaced would have resulted in a reliability concern or would have been ineffective.
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**D. Regional Variances**

None.

**E. Associated Documents**

Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document

**Version History**

Version	Date	Action	Change Tracking
1		Adopted by NERC Board of Trustees	November 4, 2010
2			Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.

### Rationale

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon Board adoption, the text from the rationale text boxes was moved to this section.

## Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

### Description of Current Draft

This version of Reliability Standard IRO-006-EAST is posted for final ballot to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team (FYRT). That review resulted in a recommended drafting effort, which is being conducted by the Project 2015-06 Interconnection Reliability Operations and Coordination standard drafting team.

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**Term(s):** None.

The rationale boxes will be moved to the Supplemental Material Section of the standard after the standard is adopted by the NERC Board of Trustees.

## A. Introduction

1. **Title:** Transmission Loading Relief Procedure for the Eastern Interconnection
2. **Number:** IRO-006-EAST-2
3. **Purpose:** To ~~ensure~~ coordinated action between Reliability Coordinators within the Eastern Interconnection when implementing transmission loading relief procedures (TLR) for the Eastern Interconnection to prevent or manage potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).
4. **Applicability:**
  - 4.1. **Functional Entities:**
    - 4.1.1. Reliability Coordinators in the Eastern Interconnection
5. **Effective Date:** See [the](#) Implementation Plan for IRO-006-EAST-2.

## B. Requirements and Measures

**Rationale for recommendation to retire Requirement R1:** The standard drafting team (IRO SDT) agrees with the FYRT's assertion that IRO-006-EAST-1 Requirement R1 is redundant with IRO-008-1, Requirement R3, and IRO-009-1, Requirement R4, and that the requirements in IRO-008-1 and IRO-009-1 are results based and specify a reliability objective to be achieved. The IRO SDT further agrees with the FYRT's conclusion that IRO-006-EAST-1 Requirement R1 simply provides a list of actions to be taken without any parameters for their use.

**Rationale for recommendation to retire Requirement R3:** The IRO SDT agrees with the FYRT's determination that the intent of Requirement R3 is not to define a curtailment process when the IDC is compromised or unavailable. In the event of an [Interchange Distribution Calculator \(IDC\)](#) failure, [Transmission Loading Relief \(TLR\)](#) action would be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System. The IRO SDT further agrees with the FYRT's assertion that Requirement R3 contains actions that are automatically generated via the IDC tool and sent to proper entities upon issuance of the TLR. This requirement should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.

**Rationale for revisions to new Requirement R1 (previously Requirement R2):** The IRO SDT provided edits to improve clarity and to incorporate and simplify the sub-requirements into the main requirement.

- R1.** Each Reliability Coordinator that initiates the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance shall identify the TLR level and the congestion management actions to be implemented, and shall update this information at least every clock hour (except TLR-1) after initiation up to and including the hour when the TLR level has been identified as TLR Level 0.<sup>1</sup> [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]
- M1.** Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that at the time it initiated the Eastern Interconnection TLR procedure, and at least every clock hour after initiation up to and including the hour when the TLR level was identified as TLR Level 0, the Reliability Coordinator identified both the TLR Level and a list of congestion management actions to be implemented in accordance with Requirement R1.

**Rationale for Revisions to new Requirement R2 (previously Requirement R4):** The IRO SDT provided edits to improve clarity and to incorporate and simplify some of the bullets into the main requirement, and modified the remaining bullet to be a requirement instead of a passive statement.

- R2.** Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall, within 15 minutes of receiving the request from the issuing Reliability Coordinator, instruct the Sink Balancing Authority to implement the congestion management actions ~~within 15 minutes of receiving the request from the issuing Reliability Coordinator~~, subject to the following exception: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- Should an assessment determine that one or more of the congestion management actions communicated will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions with the issuing Reliability Coordinator.
- M2.** Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR

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<sup>1</sup> For more information on TLR levels, please see "Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document."

procedure shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that within fifteen minutes of the receipt of a request, the Reliability Coordinator complied with the request by either 1) instructing the Sink Balancing Authority to implement the congestion management actions requested by the issuing Reliability Coordinator, or 2) instructing the Sink Balancing Authority to implement~~implementing~~ none or some of the communicated congestion management actions requested by the issuing Reliability Coordinator, and replacing the remainder with alternate congestion management actions if assessment showed that some or all of the requested congestion management actions would have resulted in a reliability concern or would have been ineffective in accordance with Requirement R2.



## C. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

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For Requirement R1 and Requirement R2, the Reliability Coordinator shall maintain evidence to show compliance with Requirement R1 and Requirement R2 for the past 12 months plus the current month.

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#### 1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

#### 1.4. Additional Compliance Information

None.

### Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
<b>R1.</b>	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for one clock hour during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for two clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for three clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for four or more clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.
<b>R2.</b>				The responding Reliability Coordinator did not, within 15 minutes of receiving a request, either 1) instruct the Sink Balancing Authority to implement all the requested congestion management actions, or 2) coordinate alternate congestion management actions with the issuing Reliability Coordinator,

				provided that: assessment showed that the actions replaced would have resulted in a reliability concern or would have been ineffective.
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**D. Regional Variances**

None.

**E. Associated Documents**

Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document

**Version History**

Version	Date	Action	Change Tracking
1		Adopted by NERC Board of Trustees	November 4, 2010
2			Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.

**Standard Attachments**

**Implementation Guideline for Reliability Coordinators:  
Eastern Interconnection TLR Levels**

The listed system conditions examples are intended to assist the Reliability Coordinator in determining what level of TLR to call. The Reliability Coordinator has the discretion to choose any of these levels regardless of the examples listed, provided the Reliability Coordinator has reliability reasons to take such action. TLR levels are neither required nor expected to be issued in numerical order of level.

**Table 1: Eastern Interconnection TLR Levels**

Level	Examples of Possible System Conditions
TLR 1	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is expected to approach or exceed its SOL or IROL within 8 hours.</li> </ul>
TLR 2	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is approaching or is at its SOL or IROL:               <ul style="list-style-type: none"> <li>○ Analysis shows that holding new and increasing non-firm Interchange Transactions and energy flows for the next hour can prevent exceeding this SOL or IROL.</li> </ul> </li> </ul>
TLR 3a	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is expected to exceed its SOL or IROL within the next hour.               <ul style="list-style-type: none"> <li>○ Analysis shows that full or partial curtailment or reallocation<sup>2</sup> of non-firm Interchange Transactions and energy flows can prevent exceeding this SOL and IROL.</li> </ul> </li> </ul>
TLR 3b	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is exceeding its SOL or IROL; or</li> <li>• At least one Transmission Facility is expected to exceed its SOL or IROL within the current hour.               <ul style="list-style-type: none"> <li>○ Analysis shows that full or partial curtailment or reallocation<sup>2</sup> of non-firm Interchange Transactions and energy flows can prevent exceeding this SOL or IROLs.</li> </ul> </li> </ul>
TLR 4	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is expected to exceed its SOL or IROL:               <ul style="list-style-type: none"> <li>○ Analysis shows that full curtailment of non-firm Interchange Transactions and energy flows, or reconfiguration of the transmission system can prevent exceeding this SOL or IROL.</li> </ul> </li> </ul>
TLR 5a	<ul style="list-style-type: none"> <li>• At least one Transmission Facility is expected to exceed its SOL or IROL within the next hour.               <ul style="list-style-type: none"> <li>○ Analysis shows that the following actions can prevent exceeding the SOL or IROL:                   <ul style="list-style-type: none"> <li>▪ Full curtailment non-firm Interchange Transactions and energy flows, and</li> <li>▪ Reconfiguration of the transmission system, if possible, and</li> </ul> </li> </ul> </li> </ul>

<sup>2</sup> "Reallocation" is a term defined within the NAESB TLR standards.

## Supplemental Material

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	<ul style="list-style-type: none"><li>▪ <del>Full or partial curtailment or reallocation<sup>2</sup> of firm Interchange Transactions and energy flows.</del></li></ul>
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Level	Examples of Possible System Conditions
TLR-5b	<ul style="list-style-type: none"> <li>● <del>At least one Transmission Facility is exceeding its SOL or IROL; or</del></li> <li>● <del>At least one Transmission Facility is expected to exceed its SOL or IROL within the current hour.</del> <ul style="list-style-type: none"> <li>○ <del>Analysis shows that the following actions can prevent exceeding the SOL or IROL:</del> <ul style="list-style-type: none"> <li>▪ <del>Full curtailment of non-firm Interchange Transactions and energy flows, and</del></li> <li>▪ <del>Reconfiguration of the transmission system, if possible; and</del></li> <li>▪ <del>Full or partial curtailment or reallocation<sup>2</sup> of firm Interchange Transactions and energy flows.</del></li> </ul> </li> </ul> </li> </ul>
TLR-6	<ul style="list-style-type: none"> <li>● <del>At least one Transmission Facility is exceeding its SOL or IROL; or</del></li> <li>● <del>At least one Transmission Facility is expected to exceed its SOL or IROL upon the removal from service of a generating unit or another transmission facility.</del></li> </ul>
TLR-0	<ul style="list-style-type: none"> <li>● <del>No transmission facilities are expected to approach or exceed their SOL or IROL within 8 hours, and the Interconnection-wide transmission loading relief procedure may be terminated</del></li> </ul>

### Rationale

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon Board adoption, the text from the rationale text boxes was moved to this section.

## Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

### Description of Current Draft

This version of Reliability Standard IRO-006-EAST is posted for final ballot to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team (FYRT). That review resulted in a recommended drafting effort, which is being conducted by the Project 2015-06 Interconnection Reliability Operations and Coordination standard drafting team.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	March 11, 2015
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Anticipated Actions	Anticipated Dates
Final ballot	July 2015
NERC Board of Trustees (Board) adoption	August 2015

### New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

**Term(s):** None.



## Standard IRO-006-EAST-42 — TLR Procedure for the Eastern Interconnection

The rationale boxes will be moved to the Supplemental Material Section of the standard after the standard is adopted by the NERC Board of Trustees.

### A. Introduction

1. **Title: Transmission Loading Relief Procedure for the Eastern Interconnection**
2. **Number:** IRO-006-EAST-42
3. **Purpose:** To ~~ensure coordinated action between Reliability Coordinators within the Eastern provide an~~ Interconnection-wide ~~when implementing~~ transmission loading relief procedures (TLR) for the Eastern Interconnection ~~that can be used~~ to prevent ~~and/or mitigate manage~~ potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).
4. **Applicability:**
  - 4.1. Reliability Coordinators in the Eastern Interconnection.
5. **Proposed Effective Date:** ~~See the Implementation Plan for IRO-006-EAST-2. First day of the first calendar quarter following the date this standard is approved by applicable regulatory authorities, or in those jurisdictions where regulatory approval is not required, the standard becomes effective on the first day of the first calendar quarter after the date this standard is approved by the NERC Board of Trustees.~~

### B. Requirements

**Rationale for recommendation to retire Requirement R1:** The standard drafting team (IRO SDT) agrees with the FYRT's assertion that IRO-006-EAST-1 Requirement R1 is redundant with IRO-008-1, Requirement R3, and IRO-009-1, Requirement R4, and that the requirements in IRO-008-1 and IRO-009-1 are results based and specify a reliability objective to be achieved. The IRO SDT further agrees with the FYRT's conclusion that IRO-006-EAST-1 Requirement R1 simply provides a list of actions to be taken without any parameters for their use.

~~R1. When acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's TV, each Reliability Coordinator shall initiate, prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated), one or more of the following actions: [Violation Risk Factor: High] [Time Horizon: Real-time Operations]~~

- ~~• Inter-area redispatch of generation~~
- ~~• Intra-area redispatch of generation~~
- ~~• Reconfiguration of the transmission system~~
- ~~• Voluntary load reductions (e.g., Demand-side Management)~~

**Standard IRO-006-EAST-42 — TLR Procedure for the Eastern Interconnection**

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- ~~• Controlled load reductions (e.g., load shedding)~~
-

**Rationale for revisions to new Requirement R1 (previously Requirement R2):** The IRO SDT provided edits to improve clarity and to incorporate and simplify the sub-requirements into the main requirement.

**R12.** ~~Each Reliability Coordinator that initiates~~To ensure operating entities are provided with information needed to maintain an awareness of changes to the Transmission System, when initiating the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance, ~~shall~~ identify the TLR level and the congestion management actions to be implemented, and shall update this information at least every clock hour (~~with the exception of TLR-1, where an hourly update is not required~~) after initiation up to and including the hour when the TLR level has been identified as TLR Level 0.<sup>1</sup>, ~~the Reliability Coordinator shall identify:~~ [Violation Risk Factor: Medium] [-Time Horizon: Real-time Operations]

**2.1.** ~~— A list of congestion management actions to be implemented, and~~  
~~One of the following TLR levels: TLR 1, TLR 2, TLR 3A,~~  
~~TLR 3B, TLR 4, TLR 5A, TLR 5B, TLR 6, TLR 0~~<sup>1</sup>

<sup>1</sup>For more information on TLR levels, please see “Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document.”

<sup>1</sup> For more information on TLR levels, please see “Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document.”  
Approved by the Board of Trustees on November 4, 2010

**Rationale for recommendation to retire Requirement R3:** The IRO SDT agrees with the FYRT's determination that the intent of Requirement R3 is not to define a curtailment process when the IDC is compromised or unavailable. In the event of an Interchange Distribution Calculator (IDC) failure, Transmission Loading Relief (TLR) action would be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the Bulk Electric System. The IRO SDT further agrees with the FYRT's assertion that Requirement R3 contains actions that are automatically generated via the IDC tool and sent to proper entities upon issuance of the TLR. This requirement should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.

- ~~**R3.** Upon the identification of the TLR level and a list of congestion management actions to be implemented, the Reliability Coordinator initiating this TLR procedure shall: [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]~~
- ~~**3.1.** Notify all Reliability Coordinators in the Eastern Interconnection of the identified TLR level~~
- ~~**3.2.** Communicate the list of congestion management actions to be implemented to 1.) all Reliability Coordinators in the Eastern Interconnection, and 2.) those Reliability Coordinators in other Interconnections responsible for curtailing Interchange Transactions crossing Interconnection boundaries identified in the list of congestion management actions.~~
- ~~**3.3.** Request that the congestion management actions identified in Requirement R2, Part 2.1 be implemented by:~~
- ~~1.) Each Reliability Coordinator associated with a Sink Balancing Authority for which Interchange Transactions are to be curtailed,~~
- ~~2.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which Network Integration Transmission Service or Native Load is to be curtailed, and~~
- ~~3.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which its Market Flow is to be curtailed.~~

**Rationale for Revisions to new Requirement R2 (previously Requirement R4):** The IRO SDT provided edits to improve clarity and to incorporate and simplify some of the bullets into the main requirement, and modified the remaining bullet to be a requirement instead of a passive statement.

- R42.** Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern

## Standard IRO-006-EAST-42 — TLR Procedure for the Eastern Interconnection

~~Interconnection TLR procedure that receives a request as described in Requirement R3, Part 3.3. shall, within 15 minutes of receiving the request from the issuing Reliability Coordinator, instruct the Sink Balancing Authority to implement the congestion management actions, within 15 minutes of receiving the request, implement the congestion management actions requested by the issuing Reliability Coordinator, subject to the following exception: as follows: [Violation Risk Factor: High] [-Time Horizon: Real-time Operations]~~

- ~~• Instruct its Balancing Authorities to implement the Interchange Transaction schedule change requests.~~
- ~~• Instruct its Balancing Authorities to implement the Network Integration Transmission Service and Native Load schedule changes for which the Balancing Authorities are responsible.~~
- ~~• Instruct its Balancing Authorities to implement the Market Flow schedule changes for which the Balancing Authorities are responsible.~~
- Should ~~If~~ an assessment determines ~~shows~~ that one or more of the congestion management actions communicated ~~in Requirement R3, Part 3.3~~ will result in a reliability concern or will be ineffective, the Reliability Coordinator with a Sink Balancing Authority shall coordinate alternate congestion management actions with the issuing Reliability Coordinator ~~the Reliability Coordinator may replace those specific actions with alternate congestion management actions, provided that:~~

~~The alternate congestion management actions have been agreed to by the initiating Reliability Coordinator, and~~

~~The assessment shows that the alternate congestion management actions will not adversely affect reliability.~~

Measures

~~C. M1. Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that when acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's T<sub>v</sub>, the Reliability Coordinator initiated one or more of the actions listed in R1 prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)(R1).~~

**M21.** Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that at the time it initiated the Eastern Interconnection TLR procedure, and at least every clock hour after initiation up to and including the hour when the TLR level was identified as TLR Level 0, the Reliability Coordinator identified both the TLR Level and a list of congestion management actions to be implemented in accordance with Requirement R1(R2).

~~M3. Each Reliability Coordinator shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that after it identified a TLR level and a list of congestion management actions to take, it 1-) notified all Reliability Coordinators in the Eastern Interconnection of the TLR Level, 2-) communicated the list of actions to all Reliability Coordinators in the Eastern Interconnection and those Reliability Coordinators in other Interconnections responsible for curtailing Interchange Transactions crossing Interconnection boundaries identified in the list of congestion management actions, and 3-) requested the Reliability Coordinators identified in Requirement R3 Part 3.2 to implement the congestion management actions identified in Requirement R2 Part 2.1 (R3).~~

**M42.** Each Reliability Coordinator with a Sink Balancing Authority that must implement congestion management actions pursuant to the Eastern Interconnection TLR procedure shall provide evidence (such as dated logs, voice recordings, or other information in electronic or hard-copy format) that within fifteen minutes of the receipt of a request ~~as described in R3~~, the Reliability Coordinator complied with the request by either 1-) instructing the Sink Balancing Authority to implement the congestion management actions~~implementing the communicated congestion management actions~~ requested by the issuing Reliability Coordinator, or 2-) instructing the Sink Balancing Authority to implement~~implementing~~ none or some of the communicated congestion management actions requested by the issuing Reliability Coordinator, and replacing the remainder with alternate congestion management actions if assessment showed that some or all of the requested congestion management actions ~~communicated in R3~~ would have resulted in a reliability concern or would have been ineffective, ~~the alternate congestion management actions were agreed to by the initiating Reliability Coordinator, and assessment showed that the alternate congestion management actions would not adversely affect reliability~~ in accordance with Requirement R2(R4).

D.C. Compliance

1. Compliance Monitoring Process

**1.1. Compliance Enforcement Authority:**

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

**1.2. Evidence Retention:**

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

For Requirement R1 and Requirement R2, the Reliability Coordinator shall maintain evidence to show compliance with Requirement R1 and Requirement R2 for the past 12 months plus the current month.

If a Reliability Coordinator is found non-compliant, it shall keep information related to the non-compliance until found compliant.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

**1.3. Compliance Monitoring and Enforcement Program**

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

**1.4. Additional Compliance Information**

None.

~~1.1. Compliance Enforcement Authority~~

~~Regional Entity.~~

~~1.2. Compliance Monitoring and Enforcement~~

~~Processes: The following processes may be used:~~

~~Compliance Audits~~

~~Self-Certifications~~

~~Spot Checking~~

~~Compliance Violation Investigations~~

~~Self-Reporting~~

~~Complaints~~

~~1.3. Data Retention~~

~~The Reliability Coordinator shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:~~

~~The Reliability Coordinator shall maintain evidence to show compliance with R1, R2, R3, and R4 for the past 12 months plus the current month.~~

~~If a Reliability Coordinator is found non-compliant, it shall keep information related to the non-compliance until found compliant.~~

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

~~1.4. Additional Compliance Information~~

~~None.~~



3. Violation Severity Levels

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1				<p><del>When acting or instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's Tv, the Reliability Coordinator did not initiate one or more of the actions listed under R1 prior to or in conjunction with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated).</del></p>

**Standard IRO-006-EAST-21 — TLR Procedure for the Eastern**

<p><u>R21</u></p>	<p>The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for one clock hour during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.</p>	<p>The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for two clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.</p>	<p>The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for three clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.</p>	<p>The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take as specified by the requirement for four or more clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.</p>
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R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R42				<p>The responding Reliability Coordinator did not, within 15 minutes of receiving a request, either 1-) <u>instruct the Sink Balancing Authority to</u> implement all the requested congestion management actions, or 2-) <del>implement none or some of the requested congestion management actions and replace the remainder with</del> <u>coordinate</u> alternate congestion management actions with the issuing Reliability Coordinator, provided that: assessment showed that the actions replaced would have resulted in a reliability concern or would have been ineffective.</p>

Standard IRO-006-EAST-21 — TLR Procedure for the Eastern

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
				<p><del>congestion management actions with the issuing Reliability Coordinator, provided that: assessment showed that the actions replaced would have resulted in a reliability concern or would have been ineffective, the alternate congestion management actions were agreed to by the initiating Reliability Coordinator, and assessment determined that the alternate congestion management actions would not adversely affect reliability.</del></p>

**E. Variances**

None.

**F. Associated Documents**

Implementation Guideline for Reliability Coordinators:  
Eastern Interconnection TLR Levels Reference Document

**G. ~~Revision~~ Version History**

Version	Date	Action	Tracking
<del>1</del>		<del>Creation of new standard, incorporating concepts from IRO-006-4 Attachment; elimination of Regional Differences, as the standard allows the use of Market Flow</del>	New
<u>1</u>		<u>Adopted by NERC Board of Trustees</u>	<u>November 4, 2010</u>
<u>2</u>			<u>Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.</u>
<del>1</del>	<del>April 21, 2011</del>	<del>FERC Order issued approving IRO-006-EAST-1 (approval effective June 27, 2011)</del>	



\* FOR INFORMATIONAL PURPOSES ONLY \*

**Enforcement Dates: Standard IRO-006-EAST-1 — Transmission Loading Relief Procedure for the Eastern Interconnection**

**United States**

Standard	Requirement	Enforcement Date	Inactive Date
IRO-006-EAST-1	All	07/01/2011	

## Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

### Description of Current Draft

This version of Reliability Standard IRO-009 is posted for final ballot to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team (FYRT). That review resulted in a recommended drafting effort, which is being conducted by the Project 2015-06 Interconnection Reliability Operations and Coordination standard drafting team.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	March 11, 2015
SAR posted for comment	March 16 – April 15, 2015
45-day formal comment period with ballot	May 21– July 9, 2015

Anticipated Actions	Anticipated Dates
Final ballot	July 2015
NERC Board of Trustees (Board) adoption	August 2015



### **New or Modified Term(s) Used in NERC Reliability Standards**

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

**Term(s):** None.

The rationale boxes will be moved to the Supplemental Material Section of the standard after the standard is adopted by the Board.

## **A. Introduction**

- 1. Title:** Reliability Coordinator Actions to Operate Within IROLs
- 2. Number:** IRO-009-2
- 3. Purpose:** To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).
- 4. Applicability:**
  - 4.1. Functional Entities:**
    - 4.1.1.** Reliability Coordinator.
- 5. Effective Date:** See the Implementation Plan for IRO-009-2.

## **B. Requirements and Measures**

**Rationale for revisions to Requirement R1:** The standard drafting team (IRO SDT) revised this requirement by combining IRO-009-1 Requirements R1 and R2 to form one requirement with two subparts to make the requirements more concise, as both requirements contained similar language.

- R1.** For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions the Reliability Coordinator shall take or actions the Reliability Coordinator shall direct others to take (up to and including load shedding): *[Violation Risk Factor: Medium]*  
*[Time Horizon: Operations Planning or Same Day Operations]*
  - 1.1** That can be implemented in time to prevent the identified IROL exceedance.
  - 1.2** To mitigate the magnitude and duration of an IROL exceedance such that the IROL exceedance is relieved within the IROL's  $T_v$ .
- M1.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it has Operating Processes, Procedures, or Plans to address both preventing and mitigating the magnitude and duration of IROL exceedances in accordance with Requirement R1. This evidence shall include a list of any IROLs (and each associated  $T_v$ ) identified in advance, along with one or more dated Operating Processes, Procedures, or Plans that will be used.

**Rationale for revisions to new Requirement R2 (previously Requirement R3):** The IRO SDT revised the language of this requirement to improve clarity as well as consistency with similar NERC Board of Trustees (Board) approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments.”

- R2.** Each Reliability Coordinator shall initiate one or more Operating Processes, Procedures, or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirement R1) that are intended to prevent an IROL exceedance, as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M2.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it initiated one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) in accordance with Requirement R2. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**Rationale for Revisions to Requirement R3 (previously Requirement R4):** The IRO SDT removed the term “without delay” from the requirement upon determining that the point of time at which the requirement is triggered is inherent in the requirement itself. The IRO SDT also revised the language of this requirement to improve clarity as well as consistency with similar Board approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments.”

- R3.** Each Reliability Coordinator shall act or direct others to act so that the magnitude and duration of an IROL exceedance is mitigated within the IROL’s  $T_v$ , as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M3.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**Rationale for revisions to Requirement R4 (previously Requirement R5):** The IRO SDT revised the language of this requirement for clarity as well as consistency with similar

Board approved standards, such as TOP standard revisions (TOP-001-3 R18). The IRO SDT retained clarifying language to limit applicability to appropriate affected RCs.

- R4.** Each Reliability Coordinator shall operate to the most limiting IROL and  $T_v$  in instances where there is a difference in an IROL or its  $T_v$  between Reliability Coordinators that are responsible for that Facility (or group of Facilities). [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- M4.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it operated to the most limiting IROL and  $T_v$  in instances where there was a difference in an IROL or its  $T_v$ . Such evidence could include, but is not limited to, dated computer printouts, dated operator logs, dated voice recordings, dated transcripts of voice recordings, or other equivalent evidence in accordance with Requirement R4.

## C. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

#### 1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

The Reliability Coordinator shall retain evidence of Requirement R1; Requirement R2; Requirement R3; and Requirement R4 for a rolling 12 months.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and any reported IROL violations submitted since the last audit.

#### 1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

#### 1.4. Additional Compliance Information

**None.**

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.				<p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to prevent that IROL exceedance (Part 1.1).</p> <p style="text-align: center;">OR</p> <p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate that IROL exceedance within the IROL’s T<sub>v</sub>. (Part 1.2).</p>
R2.				No Operating Processes, Procedures, or Plans were

				initiated that were intended to prevent a predicted IROL exceedance as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.
<b>R3.</b>				Actual system conditions showed that there was an IROL exceedance in its Reliability Coordinator Area, and that the IROL exceedance was not mitigated within the IROL’s T <sub>v</sub> .
<b>R4.</b>				The most limiting IROL or its T <sub>v</sub> was not operated to between Reliability Coordinators that are responsible for the Facility (or group of Facilities) associated with the IROL.

**D. Regional Variances**

None.

**E. Associated Documents**

None.

### Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by NERC Board of Trustees	
2			Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.



### Standard Attachments

None.

### Rationale

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.

## Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

### Description of Current Draft

This version of Reliability Standard IRO-009 is posted for final ballot to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team (FYRT). That review resulted in a recommended drafting effort, which is being conducted by the Project 2015-06 Interconnection Reliability Operations and Coordination standard drafting team.

Completed Actions	Date
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### New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

**Term(s):** None.

The rationale boxes will be moved to the Supplemental Material Section of the standard after the standard is adopted by the Board.

## A. Introduction

1. **Title:** Reliability Coordinator Actions to Operate Within IROLs
2. **Number:** IRO-009-2
3. **Purpose:** To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).
4. **Applicability:**
  - 4.1. **Functional Entities:**
    - 4.1.1. Reliability Coordinator.
5. **Effective Date:** See the Implementation Plan for IRO-009-2.

## B. Requirements and Measures

**Rationale for revisions to Requirement R1:** The standard drafting team (IRO SDT) revised this requirement by combining IRO-009-1 Requirements R1 and R2 to form one requirement with two subparts to make the requirements more concise, as both requirements contained similar language.

- R1.** For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions the Reliability Coordinator shall take or actions the Reliability Coordinator shall direct others to take (up to and including load shedding): *[Violation Risk Factor: Medium]*  
*[Time Horizon: Operations Planning or Same Day Operations]*
  - 1.1** That can be implemented in time to prevent the identified IROL exceedance.
  - 1.2** To mitigate the magnitude and duration of an IROL exceedance such that the IROL exceedance is relieved within the IROL's  $T_v$ .
- M1.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it has Operating Processes, Procedures, or Plans to address both preventing and mitigating the magnitude and duration of IROL exceedances in accordance with Requirement R1. This evidence shall include a list of any IROLs (and each associated  $T_v$ ) identified in advance, along with one or more dated Operating Processes, Procedures, or Plans that ~~that~~ will be used.

**Rationale for revisions to new Requirement R2 (previously Requirement R3):** The IRO SDT revised the language of this requirement to improve clarity as well as consistency with similar NERC Board of Trustees (Board) approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments.”

- R2.** Each Reliability Coordinator shall initiate one or more Operating Processes, Procedures, or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirement R1) that are intended to prevent an IROL exceedance, as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M2.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it initiated one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) in accordance with Requirement R2. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**Rationale for Revisions to Requirement R3 (previously Requirement R4):** The IRO SDT removed the term “without delay” from the requirement upon determining that the point of time at which the requirement is triggered is inherent in the requirement itself. The IRO SDT also revised the language of this requirement to improve clarity as well as consistency with similar Board approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments.”

- R3.** Each Reliability Coordinator shall act or direct others to act so that the magnitude and duration of an IROL exceedance is mitigated within the IROL’s  $T_v$ , as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*
- M3.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans ~~from Requirement R1~~, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**Rationale for revisions to Requirement R4 (previously Requirement R5):** The IRO SDT revised the language of this requirement for clarity as well as consistency with similar

Board approved standards, such as TOP standard revisions (TOP-001-3 R18). The IRO SDT retained clarifying language to limit applicability to appropriate affected RCs.

- R4.** Each Reliability Coordinator shall operate to the most limiting IROL and  $T_v$  in instances where there is a difference in an IROL or its  $T_v$  between Reliability Coordinators that are responsible for that Facility (or group of Facilities). [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- M4.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it operated to the most limiting IROL and  $T_v$  in instances where there was a difference in an IROL or its  $T_v$ . Such evidence could include, but is not limited to, dated computer printouts, dated operator logs, dated voice recordings, dated transcripts of voice recordings, or other equivalent evidence in accordance with Requirement R4.

## C. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

#### 1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

The Reliability Coordinator shall retain evidence of Requirement R1; Requirement R2; Requirement R3; and Requirement R4 for a rolling 12 months.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and ~~all any reported~~ IROL ~~Violation Reports~~ submitted since the last audit.

#### 1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

#### 1.4. Additional Compliance Information

~~**None. Exception Reporting:** For each instance of exceeding an IROL for time greater than IROL T<sub>v</sub>, the Reliability Coordinator shall submit an IROL Violation Report to its Compliance Enforcement Authority within 30 days of the initiation of the event.~~

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.				<p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to prevent that IROL exceedance (Part 1.1).</p> <p style="text-align: center;">OR</p> <p>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate that IROL exceedance within the IROL’s T<sub>v</sub>. (Part 1.2).</p>
R2.				No Operating Processes, Procedures, or Plans were



				initiated that were intended to prevent a predicted IROL exceedance as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment.
<b>R3.</b>				Actual system conditions showed that there was an IROL exceedance in its Reliability Coordinator Area, and that the IROL exceedance was not mitigated within the IROL’s T <sub>v</sub> .
<b>R4.</b>				The most limiting IROL or its T <sub>v</sub> was not operated to between Reliability Coordinators that are responsible for the Facility (or group of Facilities) associated with the IROL.

**D. Regional Variances**

None.

**E. Associated Documents**

~~IROL Violation Report~~ None.

### Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by NERC Board of Trustees	
2			Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.

### Standard Attachments

None.

### Rationale

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.

## Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

### Description of Current Draft

This version of Reliability Standard IRO-009 is posted for final ballot to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team (FYRT). That review resulted in a recommended drafting effort, which is being conducted by the Project 2015-06 Interconnection Reliability Operations and Coordination standard drafting team.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	March 11, 2015
SAR posted for comment	March 16 – April 15, 2015
45-day formal comment period with ballot	May 21– July 9, 2015

Anticipated Actions	Anticipated Dates
Final ballot	July 2015
NERC Board of Trustees (Board) adoption	August 2015

## New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

**Term(s):** None.

The rationale boxes will be moved to the Supplemental Material Section of the standard after the standard is adopted by the Board.

## A. Introduction

1. **Title:** Reliability Coordinator Actions to Operate Within IROLs
2. **Number:** IRO-009-12
3. **Purpose:** To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).
4. **Applicability:**
  - 4.1. Reliability Coordinator.
5. ~~**Proposed Effective Date:**  
In those jurisdictions where no regulatory approval is required, the standard shall become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after BOT adoption.  
  
In those jurisdictions where regulatory approval is required, the standard shall become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after applicable regulatory approval. See the Implementation Plan for IRO-009-2.~~

## B. Requirements

**Rationale for revisions to Requirements R1:** The standard drafting team (IRO SDT) revised this requirement by combining IRO-009-1 Requirements R1 and R2 to form one requirement with two subparts to make the requirements more concise, as both requirements contained similar language.

- R1.** For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions ~~it~~ the Reliability Coordinator shall take or actions ~~it~~ the Reliability Coordinator shall direct others to take (up to and including load shedding); ~~that can be implemented in time to prevent exceeding those IROLs.~~ (Violation Risk Factor: Medium) (Time Horizon: Operations Planning or Same Day Operations)

~~1.1~~ — That can be implemented in time to prevent the identified IROL exceedance.

~~1.1~~

- 1.2 ~~**R2.** — For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) ~~it~~ To mitigate the magnitude and duration of exceeding~~

**Standard IRO-009-24 — Reliability Coordinator Actions to Operate Within IROLs**

~~an~~ ~~that IROL-IROL exceedance~~ such that the IROL ~~exceedance~~ is relieved within the IROL's T<sub>v</sub>. ~~(Violation Risk Factor: Medium) (Time Horizon: Operations Planning or Same Day Operations)~~

**Rationale for revisions to new Requirement R2 (previously Requirement R3):** The IRO SDT revised the language of this requirement to improve clarity as well as consistency with similar NERC Board of Trustees (Board) approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments.”

~~R23. When an assessment of actual or expected system conditions predicts that an IROL in its Reliability Coordinator Area will be exceeded, the Each~~ Reliability Coordinator shall ~~implement~~ initiate one or more Operating Processes, Procedures, or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) that are intended to prevent ~~exceeding that an~~ IROL exceedance as identified in the Reliability Coordinator's Real-time monitoring or Real-time Assessment. ~~(Violation Risk Factor: High) (Time Horizon: Real-time —Operations)~~

**Rationale for revisions to new Requirement R3 (previously Requirement R4):** The IRO SDT removed the term “without delay” from the requirement upon determining that the point of time at which the requirement is triggered is inherent in the requirement itself. The IRO SDT also revised the language of this requirement to improve clarity as well as consistency with similar Board approved standards, such as, TOP standard revisions (TOP-001-3 R14); “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments.”

~~R4R3. When actual system conditions show that there is an instance of exceeding an IROL in its Reliability Coordinator Area, the Each~~ Reliability Coordinator shall; ~~without delay,~~ act or direct others to act so that to mitigate the magnitude and duration of ~~the instance of exceeding that an~~ IROL exceedance is mitigated within the IROL's T<sub>v</sub>, identified in the Reliability Coordinator's Real-time monitoring or Real-time Assessment. ~~(Violation Risk Factor: High-) (Time Horizon: Real-time Operations)~~

**Rationale for revisions to Requirement R4 (previously Requirement R5):** The IRO SDT revised the language of this requirement for clarity as well as consistency with similar Board approved standards, such as TOP standard revisions (TOP-001-3 R18). The IRO SDT retained clarifying language to limit applicability to appropriate affected RCs.

~~R45. If unanimity cannot be reached on the value for an IROL or its  $T_v$ , e~~Each Reliability Coordinator ~~that monitors that Facility (or group of Facilities) shall operate to; without delay, use~~ the most limiting IROL and  $T_v$  in instances where there is a difference in an IROL or its  $T_v$  between Reliability Coordinators that are responsible for that Facility (or group of Facilities). ~~conservative of the values (the value with the least impact on reliability) under consideration.~~ (*Violation Risk Factor: High*) (*Time Horizon: Real-time Operations*)

### C. Measures

**M1.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it has Operating Processes, Procedures, or Plans to address both preventing and mitigating the magnitude and duration of IROL exceedances ~~instances of exceeding IROLs~~ in accordance with Requirement R1 ~~and Requirement R2~~. This evidence shall include a list of any IROLs (and each associated  $T_v$ ) identified in advance, along with one or more dated Operating Processes, Procedures, or Plans that ~~that~~ will be used.

**M2.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it initiated one or more Operating Processes, Procedures or Plans (not limited to the Operating Processes, Procedures, or Plans developed for Requirements R1) in accordance with Requirement R2. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.

**M3.** Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence. ~~M2. — Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it acted or directed others to act in accordance with Requirement R3 and Requirement R4. This evidence could include, but is not limited to, Operating Processes, Procedures, or Plans from Requirement R1, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.~~

**M43.** ~~For a situation where Reliability Coordinators disagree on the value of an IROL or its  $T_v$  the~~Each Reliability Coordinator shall have, and make available upon request, evidence to confirm that it operated to the most limiting IROL and  $T_v$  in instances where there was a difference in an IROL or its  $T_v$  used the most conservative of the values under consideration, without delay. Such evidence could include, but is not limited to, dated computer printouts, dated operator logs, dated voice recordings, dated transcripts of voice recordings, or other equivalent evidence in accordance with Requirement R4. ~~(R5)~~



## D. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

~~1.2. For Reliability Coordinators that work for the Regional Entity, the ERO shall serve as the Compliance Enforcement Authority.~~

~~1.3. For Reliability Coordinators that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.~~

#### 1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

The Reliability Coordinator shall retain evidence of Requirement R1; Requirement R2; Requirement R3; and Requirement for a rolling 12 months.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and any reported IROL violations submitted since the last audit.

#### 1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

#### 1.4. Additional Compliance Information

None.

#### ~~1.4. Compliance Monitoring Period and Reset Time Frame~~

~~Not applicable.~~

#### ~~1.5. Compliance Monitoring and Enforcement Processes~~

~~Compliance Audits~~

~~Self-Certifications~~

~~Spot Checking~~

~~Compliance Violation Investigations~~

~~Self-Reporting~~

~~Complaints~~

~~Exception Reporting~~

~~1.6. Data Retention~~

~~The Reliability Coordinator, shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:~~

~~The Reliability Coordinator shall retain evidence of Requirement R1, Requirement R2, and Measure M1, for a rolling 12 months.~~

~~The Reliability Coordinator shall retain evidence of Requirement R3, Requirement R4, Requirement R5, Measure M2, and Measure M3 for a rolling 12 months.~~

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records, and all IROL Violation Reports submitted since the last audit.~~

~~1.7. Additional Compliance Information~~

~~**Exception Reporting:** For each instance of exceeding an IROL for time greater than IROL  $T_v$ , the Reliability Coordinator shall submit an IROL Violation Report to its Compliance Enforcement Authority within 30 days of the initiation of the event.~~

2. Violation Severity Levels

Requirement	Lower	Moderate	High	Severe
R1				<p><u>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to prevent that IROL exceedance (Part 1.1).</u></p> <p style="text-align: center;"><u>OR</u></p> <p><u>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate that IROL exceedance within the IROL's T<sub>v</sub>. (Part 1.2)</u><del>An IROL in its Reliability Coordinator Area was identified one or more days in advance and the</del></p>

Standard IRO-009-~~24~~ — Reliability Coordinator Actions to Operate Within IROLs

<p><del>R2</del></p>				<p><del>An IROL in its Reliability-Coordinator Area was identified one or more days in advance and the Reliability Coordinator does not have an Operating Process, Procedure, or Plan that identifies actions to mitigate exceeding that IROL within the IROL's Tv. (R2)</del></p>
<p><del>R2</del><sup>3</sup></p>				<p><del>An assessment of actual or expected system conditions predicted that an IROL in the Reliability Coordinator's Area would be exceeded, but n</del><u>No</u><del> Operating Processes, Procedures, or Plans were implemented_ initiated that were intended to prevent a predicted IROL exceedance as identified in the Reliability Coordinator's Real-time monitoring or Real-time Assessment. (R3)</del></p>

Standard IRO-009-~~21~~ — Reliability Coordinator Actions to Operate Within IROLs

<p><b>R34</b></p>			<p><del>Actual system conditions showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and there was a delay of five minutes or more before acting or directing others to act to mitigate the magnitude and duration of the instance of exceeding that IROL, however the IROL was mitigated within the IROL T<sub>v</sub>.</del></p>	<p>Actual system conditions <u>showed that there was an IROL exceedance in its Reliability Coordinator Area, and that the IROL exceedance was not resolved/</u><del>mitigated</del> <u>within the IROL's T<sub>v</sub>.</u></p>
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Requirement	Lower	Moderate	High	Severe
			<p><del>_ showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and there was a delay of five minutes or more before acting or directing others to act to mitigate the magnitude and duration of the instance of exceeding that IROL, however the IROL was mitigated within the IROL T<sub>v</sub>. (R4)</del></p>	<p><del>showed that there was an instance of exceeding an IROL in its Reliability Coordinator Area, and that IROL was not resolved within the IROL's T<sub>v</sub>. (R4)</del></p>
<p><b>R45</b></p>	<p>Not applicable.</p>	<p>Not applicable.</p>	<p>Not applicable.</p>	<p><u>The most limiting IROL or its T<sub>v</sub> was not operated to between Reliability Coordinators that are responsible for the Facility (or group of Facilities) associated with the IROL. There was a disagreement on the value of the IROL or its T<sub>v</sub> and the most conservative limit under consideration was not used. (R5)</u></p>

**E. Regional Variances**

None

**F. Associated Documents**

~~IROL Violation Report~~ None.

**Version History**

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by NERC Board of Trustees	
<del>1</del>	<del>March 17, 2011</del>	<del>Order issued by FERC approving IRO-009-1 (approval effective 5/23/11)</del>	
<del>1</del>	<del>February 28, 2014</del>	<del>Updated VRFs based on June 24, 2013 approval.</del>	
<u>2</u>			<u>Revised to address the recommendations of the Project 2012-09 Interconnected Reliability Operations Five-Year Review Team.</u>

**\* FOR INFORMATIONAL PURPOSES ONLY \***

**Enforcement Dates: Standard IRO-009-1 — Reliability Coordinator Actions to Operate Within IROs**

**United States**

<b>Standard</b>	<b>Requirement</b>	<b>Enforcement Date</b>	<b>Inactive Date</b>
IRO-009-1	All	10/01/2011	



## Implementation Plan

### Project 2015-06 Interconnection Reliability Operations and Coordination IRO-006-EAST-2

#### Standards Involved

##### Approval:

- IRO-006-EAST-2 – Transmission Loading Relief Procedure for the Eastern Interconnection

##### Retirement:

- IRO-006-EAST-1 – Transmission Loading Relief Procedure for the Eastern Interconnection

#### Prerequisite Approvals

N/A

#### Background

Project 2015-06 Interconnection Reliability Operations and Coordination (Project) was initiated to implement the Project 2012-09 Interconnection Reliability Operations Five-Year Review Team (FYRT) recommendations to revise IRO-006-EAST-1 and IRO-009-1.

The FYRT originally reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-EAST, IRO-008-1, IRO-009-1 and IRO-010-1a, and recommended revising all of these standards except for IRO-006-5, which was reaffirmed by the NERC Board of Trustees (Board). Additionally, Project 2014-03 Revisions to TOP and IRO Standards, retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-EAST-1 and IRO-009-1 with outstanding recommendations for revision.

Based on the FYRT's recommendation to revise IRO-006-EAST-1 and industry comments in response to the 30-day informal comment period for the Project ending on April 15, 2015, the Project standard drafting team (SDT) recommends revising the standard as reflected in the posted documents.

#### General Considerations

Reliability Standard IRO-006-EAST-2 is proposed for approval to address the recommendations of the five-year review and industry comments.

#### Effective Date

Reliability Standard IRO-006-EAST-2 shall become effective on the first day of the second calendar quarter after the date that the standard is approved by an applicable governmental authority or as

otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective the first day of the first calendar quarter after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

**Retirement of Existing Standards**

Reliability Standard IRO-006-EAST-1 shall be retired immediately prior to the effective date of IRO-006-EAST-2 in the particular jurisdiction in which the revised standard is becoming effective.

**Cross References**

The Implementation Plan for IRO-006-EAST-1 is available [here](#).

## Implementation Plan

### Project 2015-06 Interconnection Reliability Operations and Coordination IRO-006-EAST-2

#### Standards Involved

##### Approval:

- IRO-006-EAST-2 – Transmission Loading Relief Procedure for the Eastern Interconnection

##### Retirement:

- IRO-006-EAST-1 – Transmission Loading Relief Procedure for the Eastern Interconnection

#### Prerequisite Approvals

N/A

#### Background

Project 2015-06 Interconnection Reliability Operations and Coordination (Project) was initiated to implement the Project 2012-09 Interconnection Reliability Operations Five-Year Review Team (FYRT) recommendations to revise IRO-006-EAST-1 and IRO-009-1.

The FYRT originally reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-~~East~~EAST, IRO-008-1, IRO-009-1 and IRO-010-1a, and recommended revising all of these standards except for IRO-006-5, which was reaffirmed by the NERC Board of Trustees (Board). Additionally, Project 2014-03 Revisions to TOP and IRO Standards, retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-EAST-1 and IRO-009-1 with outstanding recommendations for revision.

Based on the FYRT's recommendation to revise IRO-006-EAST-1 and industry comments in response to the 30-day informal comment period for the Project ending on April 15, 2015, the Project standard drafting team (SDT) recommends revising the standard as reflected in the posted documents.

#### General Considerations

Reliability Standard IRO-006-EAST-2 is proposed for approval to address the recommendations of the five-year review and industry comments.

#### Effective Date

Reliability Standard IRO-006-EAST-2 shall become effective on the first day of the second calendar quarter after the date that the standard is approved by an applicable governmental authority or as

otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective the first day of the first calendar quarter after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

### **Retirement of Existing Standards**

Reliability Standard IRO-006-EAST-1 shall be retired ~~at midnight of the day~~ immediately prior to the effective date of IRO-006-EAST-2 in the particular jurisdiction in which the revised standard is becoming effective.

### **~~Implementation Plan~~**

~~Reliability Standard IRO-006-EAST-1 will continue to be implemented pursuant to the Implementation Plan for IRO-006-EAST-1 and is incorporated herein by reference.~~

### **Cross References**

The Implementation Plan for IRO-006-EAST-1 is available [here](#).

## Implementation Plan

### Project 2015-06 Interconnection Reliability Operations and Coordination IRO-009-2

#### Standards Involved

Approval:

- IRO-009-2 – Reliability Coordinator Actions to Operate within IROLs

Retirement:

- IRO-009-1 – Reliability Coordinator Actions to Operate within IROLs

#### Prerequisite Approvals

N/A

#### Background

Project 2015-06 Interconnection Reliability Operations and Coordination (Project) was initiated to implement the Project 2012-09 Interconnection Reliability Operations Five-Year Review Team (FYRT) recommendations to revise IRO-006-EAST-1 and IRO-009-1.

The FYRT originally reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-EAST, IRO-008-1, IRO-009-1 and IRO-010-1a, and recommended revising all of these standards except for IRO-006-5, which was reaffirmed by the NERC Board of Trustees (Board). Additionally, Project 2014-03 Revisions to TOP and IRO Standards, retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-EAST-1 and IRO-009-1 with outstanding recommendations for revision.

Based on the FYRT's recommendation to revise IRO-009-1 and industry comments in response to the 30-day informal comment period for the Project ending on April 15, 2015 the Project standard drafting team (SDT) recommends revising the standard as reflected in the posted documents.

#### General Considerations

Reliability Standard IRO-009-2 is proposed for approval to address the recommendations of the five-year review and industry comments.

#### Effective Date

Reliability Standard IRO-009-2 shall become effective on the first day of the first calendar quarter after the date that the standard is approved by an applicable governmental authority or as otherwise

provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective the first day of the first calendar quarter after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

**Retirement of Existing Standards**

Reliability Standard IRO-009-1 shall be retired immediately prior to the effective date of IRO-009-2 in the particular jurisdiction in which the revised standard is becoming effective.

**Cross References**

The Implementation Plan for IRO-009-1 is available [here](#).

## Implementation Plan

### Project 2015-06 Interconnection Reliability Operations and Coordination IRO-009-2

#### Standards Involved

##### Approval:

- IRO-009-2 – Reliability Coordinator Actions to Operate within IROs

##### Retirement:

- IRO-009-1 – Reliability Coordinator Actions to Operate within IROs

#### Prerequisite Approvals

N/A

#### Background

Project 2015-06 Interconnection Reliability Operations and Coordination (Project) was initiated to implement the Project 2012-09 Interconnection Reliability Operations Five-Year Review Team (FYRT) recommendations to revise IRO-006-EAST-1 and IRO-009-1.

The FYRT originally reviewed IRO-003-2, IRO-004-2, IRO-005-4, IRO-006-5, IRO-006-~~East~~EAST, IRO-008-1, IRO-009-1 and IRO-010-1a, and recommended revising all of these standards except for IRO-006-5, which was reaffirmed by the NERC Board of Trustees (Board). Additionally, Project 2014-03 Revisions to TOP and IRO Standards, retired IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a, leaving only IRO-006-EAST-1 and IRO-009-1 with outstanding recommendations for revision.

Based on the FYRT's recommendation to revise IRO-009-1 and industry comments in response to the 30-day informal comment period for the Project ending on April 15, 2015 the Project standard drafting team (SDT) recommends revising the standard as reflected in the posted documents.

#### General Considerations

Reliability Standard IRO-009-2 is proposed for approval to address the recommendations of the five-year review and industry comments.

#### Effective Date

Reliability Standard IRO-009-2 shall become effective on the first day of the first calendar quarter after the date that the standard is approved by an applicable governmental authority or as otherwise

provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective the first day of the first calendar quarter after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

#### **Retirement of Existing Standards**

Reliability Standard IRO-009-1 shall be retired ~~at midnight of the day~~ immediately prior to the effective date of IRO-009-2 in the particular jurisdiction in which the revised standard is becoming effective.

#### **~~Implementation Plan~~**

~~Reliability Standard IRO-009-1 will continue to be implemented pursuant to the Implementation Plan for IRO-009-1 and is incorporated herein by reference.~~

#### **Cross References**

The Implementation Plan for IRO-009-1 is available [here](#).



## Standards Announcement

### Project 2015-06 Interconnection Reliability Operations and Coordination IRO-006-East and IRO-009

Final Ballots Open through July 31, 2015

#### [Now Available](#)

Final ballots for **IRO-006-EAST – TLR Procedure for the Eastern Interconnection** and **IRO-009 – Reliability Coordinator Actions to Operate Within IROs** are open through **8 p.m. Eastern, Friday, July 31, 2015**.

#### Balloting

In the final ballot, votes are counted by exception. Only members of the ballot pools may cast a vote. All ballot pool members may change their previously cast votes. A ballot pool member who failed to vote during the previous ballot period may vote in the final ballot period. If a ballot pool member does not participate in the final ballot, the member's vote from the previous ballot will be carried over as their vote in the final ballot.

Members of the ballot pools associated with this project may log in and submit their vote for the standards [here](#). If you experience any difficulties using the Standards Commenting & Balloting System, contact [Wendy Muller](#).

#### Next Steps

The voting results for the standards will be posted and announced after the ballots close. If approved, the standards will be submitted to the Board of Trustees for adoption and then filed with the appropriate regulatory authorities.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Standards Developer, [Katherine Street](#) (via email) or at 404-446-9702.

North American Electric Reliability Corporation  
3353 Peachtree Rd, NE  
Suite 600, North Tower  
Atlanta, GA 30326  
404-446-2560 | [www.nerc.com](http://www.nerc.com)

## Standards Announcement

### Project 2015-06 Interconnection Reliability Operations and Coordination IRO-006-East and IRO-009

#### Final Ballot Results

#### [Now Available](#)

Final ballots for **IRO-006-EAST – TLR Procedure for the Eastern Interconnection** and **IRO-009 – Reliability Coordinator Actions to Operate Within IROs** concluded at **8 p.m. Eastern, Friday, July 31, 2015**.

The standards received sufficient affirmative votes for approval. Voting statistics are listed below, and the [Ballot Results](#) page provides a link to the detailed results for the ballots.

	Quorum /Approval
IRO-006-EAST	85.98% / 88.23%
IRO-009	90.67% / 96.84%

#### Next Steps

The standards will be submitted to the Board of Trustees for adoption and then filed with the appropriate regulatory authorities.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Standards Developer, [Katherine Street](#) (via email) or at (404) 446-9702.

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## BALLOT RESULTS

**Ballot Name:** Project 2015-06 Interconnection Reliability Operations and Coordination IRO-006-East FN 2 ST

**Voting Start Date:** 7/22/2015 12:25:31 PM

**Voting End Date:** 7/31/2015 8:00:00 PM

**Ballot Type:** ST

**Ballot Activity:** FN

**Ballot Series:** 2

**Total # Votes:** 184

**Total Ballot Pool:** 214

**Quorum:** 85.98

**Weighted Segment Value:** 88.23

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	49	1	27	0.9	3	0.1	0	14	5
Segment: 2	8	0.6	4	0.4	2	0.2	0	2	0
Segment: 3	50	1	30	0.909	3	0.091	0	10	7
Segment: 4	18	1	10	0.909	1	0.091	0	5	2
Segment: 5	44	1	25	0.893	3	0.107	0	9	7
Segment: 6	35	1	14	0.824	3	0.176	0	10	8
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment: 9	2	0.2	2	0.2	0	0	0	0	0

Segment: 10	6	0.5	5	0.5	0	0	0	0	1
Totals:	214	6.5	119	5.735	15	0.765	0	50	30

## BALLOT POOL MEMBERS

Show  entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		None	N/A
1	Associated Electric Cooperative, Inc.	Phil Hart		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Abstain	N/A
1	Beaches Energy Services	Don Cuevas		Affirmative	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Bonneville Power Administration	Donald Watkins		Abstain	N/A
1	Bryan Texas Utilities	John Fontenot		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	Negative	N/A
1	Con Ed - Consolidated Edison Co. of New	Chris de Graffenried		Affirmative	N/A

	York				
1	Dominion - Dominion Virginia Power	Larry Nash		Abstain	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	William Smith		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro-Qu?bec TransEnergie	Martin Boisvert		Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane		None	N/A
1	KAMO Electric Cooperative	Walter Kenyon		Affirmative	N/A
1	Lower Colorado River Authority	Teresa Cantwell		Abstain	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		Affirmative	N/A
1	NiSource - Northern	Julaine Dyke		Abstain	N/A

	Indiana Public Service Co.				
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	N/A
1	PHI - Potomac Electric Power Co.	David Thorne		Affirmative	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Abstain	N/A
1	Portland General Electric Co.	John Walker		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Abstain	N/A
1	Sacramento Municipal Utility District	Tim Kelley	Joe Tarantino	Abstain	N/A
1	Salt River Project	Steven Cobb		None	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Mark Churilla	Bret Galbraith	Abstain	N/A
1	Sho-Me Power Electric Cooperative	Denise Stevens		None	N/A
1	Southern Company - Southern Company Services, Inc.	Robert A. Schaffeld		Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A

1	Tennessee Valley Authority	Howell Scott		Negative	N/A
1	Tri-State G and T Association, Inc.	Tracy Sliman		Abstain	N/A
1	United Illuminating Co.	Jonathan Appelbaum		Affirmative	N/A
1	Westar Energy	Kevin Giles		Abstain	N/A
1	Western Area Power Administration	Steve Johnson		None	N/A
2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Abstain	N/A
2	Electric Reliability Council of Texas, Inc.	christina bigelow		Abstain	N/A
2	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Negative	N/A
2	ISO New England, Inc.	Michael Puscas	Kathleen Goodman	Affirmative	N/A
2	New York Independent System Operator	Gregory Campoli		Affirmative	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Negative	N/A
3	Ameren - Ameren Services	David Jendras		None	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	Lisa Martin		Abstain	N/A
3	Beaches Energy Services	Steven Lancaster		Affirmative	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik	Darnez Gresham	Affirmative	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A

3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City of Green Cove Springs	Mark Schultz		Affirmative	N/A
3	City of Leesburg	Chris Adkins		Affirmative	N/A
3	City of Redding	Bill Hughes	Mary Downey	None	N/A
3	Clark Public Utilities	Jack Stamper		Abstain	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Kent Kujala		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Exelon	John Bee		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio		Affirmative	N/A
3	Florida Municipal Power Agency	Joe McKinney		Affirmative	N/A
3	Florida Power & Light	Summer Esquerre		None	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	N/A
3	Great River Energy	Brian Glover		Affirmative	N/A
3	KAMO Electric Cooperative	Ted Hilmes		Affirmative	N/A
3	Lakeland Electric	Mace Hunter		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A



3	MEAG Power	Roger Brand	Scott Miller	Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Affirmative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Ramon Barany		Abstain	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove	John Hare	Negative	N/A
3	Omaha Public Power District	Blaine Dinwiddie		None	N/A
3	PHI - Potomac Electric Power Co.	Mark Yerger		Affirmative	N/A
3	Platte River Power Authority	Terry Baker		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Sacramento Municipal Utility District	Rachel Moore	Joe Tarantino	Abstain	N/A
3	Seattle City Light	Dana Wheelock		None	N/A
3	Seminole Electric Cooperative, Inc.	James Frauen		Abstain	N/A
3	Sho-Me Power Electric Cooperative	Jeff Neas		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Abstain	N/A
3	Southern Company - Alabama Power	R. Scott Moore		Affirmative	N/A

	Company				
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Abstain	N/A
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		None	N/A
3	Tennessee Valley Authority	Ian Grant		Negative	N/A
3	We Energies - Wisconsin Electric Power Marketing	Jim Keller		Affirmative	N/A
3	Westar Energy	Bo Jones		Abstain	N/A
4	Alliant Energy Corporation Services, Inc.	Kenneth Goldsmith		Affirmative	N/A
4	Austin Energy	Tina Garvey		Abstain	N/A
4	City of Clewiston	Lynne Mila		Affirmative	N/A
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		Affirmative	N/A
4	City of Redding	Nick Zettel	Mary Downey	None	N/A
4	City of Winter Park	Mark Brown		Affirmative	N/A
4	DTE Energy - Detroit Edison Company	Daniel Herring		Affirmative	N/A
4	FirstEnergy - Ohio Edison Company	Doug Hohlbaugh		Affirmative	N/A
4	Florida Municipal Power Agency	Carol Chinn		Affirmative	N/A
4	Georgia System Operations Corporation	Guy Andrews		Negative	N/A
4	Keys Energy Services	Stanley Rzad		Affirmative	N/A
4	MGE Energy - Madison Gas and	Joseph DePoorter		Affirmative	N/A

	Electric Co.				
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Abstain	N/A
4	Sacramento Municipal Utility District	Michael Ramirez	Joe Tarantino	Abstain	N/A
4	Seattle City Light	Hao Li		Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Abstain	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		None	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		Affirmative	N/A
5	Austin Energy	Jeanie Doty		None	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Affirmative	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	City of Independence, Power and Light Department	Jim Nail		Affirmative	N/A
5	City of Redding	Paul Cummings	Mary Downey	None	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Negative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Brian O'Boyle		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Randi Heise		Abstain	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A

5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Edison International - Southern California Edison Company	Michael McSpadden		Affirmative	N/A
5	Exelon	Vince Catania		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	David Schumann		Affirmative	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	Lakeland Electric	Jim Howard		Affirmative	N/A
5	Lower Colorado River Authority	Dixie Wells		Abstain	N/A
5	Manitoba Hydro	Yuguang Xiao		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego	Scott Miller	Affirmative	N/A
5	Nebraska Public Power District	Don Schmit		Affirmative	N/A
5	New York Power Authority	Wayne Sipperly		Affirmative	N/A
5	NextEra Energy	Allen Schriver		None	N/A
5	NRG - NRG Energy, Inc.	Alan Johnson		None	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		None	N/A
5	Oglethorpe Power Corporation	Bernard Johnson		Negative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A
5	Platte River Power Authority	Tyson Archie		Abstain	N/A
5	PPL Generation LLC	Replacementvoter-Dan		Affirmative	N/A

		Wilson			
5	PSEG - PSEG Fossil LLC	Tim Kucey		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Abstain	N/A
5	Puget Sound Energy, Inc.	Lynda Kupfer		None	N/A
5	Sacramento Municipal Utility District	Susan Gill-Zobitz	Joe Tarantino	Abstain	N/A
5	Seattle City Light	Mike Haynes		Abstain	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Abstain	N/A
5	Tallahassee Electric (City of Tallahassee, FL)	Karen Webb		Affirmative	N/A
5	TECO - Tampa Electric Co.	R James Rocha		None	N/A
5	Tennessee Valley Authority	Brandy Spraker		Negative	N/A
5	WEC Energy Group, Inc.	Linda Horn		Affirmative	N/A
5	Westar Energy	stephanie johnson		Abstain	N/A
6	AEP - AEP Marketing	Edward P Cox		None	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	Associated Electric Cooperative, Inc.	Brian Ackermann		Affirmative	N/A
6	Austin Energy	Andrew Gallo		Abstain	N/A
6	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		None	N/A
6	Bonneville Power Administration	Alex Spain		Abstain	N/A

6	City of Redding	Marvin Briggs	Mary Downey	None	N/A
6	Cleco Corporation	Robert Hirchak	Louis Guidry	Negative	N/A
6	Colorado Springs Utilities	Shannon Fair		Affirmative	N/A
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Louis Slade		Abstain	N/A
6	Exelon	Dave Carlson		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Florida Municipal Power Agency	Richard Montgomery		Affirmative	N/A
6	Florida Municipal Power Pool	Tom Reedy		Affirmative	N/A
6	Great Plains Energy - Kansas City Power and Light Co.	Chris Bridges		None	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Lower Colorado River Authority	Michael Shaw		None	N/A
6	Manitoba Hydro	Blair Mukanik	Simon Tanapat	Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Abstain	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel	Sing Tay	Negative	N/A
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power	Carol Ballantine		None	N/A

	Authority				
6	PPL - Louisville Gas and Electric Co.	OELKER LINN		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Jara		None	N/A
6	Sacramento Municipal Utility District	Diane Clark	Joe Tarantino	Abstain	N/A
6	Seattle City Light	Charles Freeman		Abstain	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Abstain	N/A
6	Snohomish County PUD No. 1	Kenn Backholm		Abstain	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	John J. Ciza		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Rick Applegate		Abstain	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Negative	N/A
6	Westar Energy	Tiffany Lake		Abstain	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		Affirmative	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Florida Reliability Coordinating Council	Peter Heidrich		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A

10	SERC Reliability Corporation	Joe Spencer		None	N/A
10	Southwest Power Pool Regional Entity	Bob Reynolds		Affirmative	N/A

Showing 1 to 214 of 214 entries

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## BALLOT RESULTS

**Ballot Name:** Project 2015-06 Interconnection Reliability Operations and Coordination IRO-009 FN 2 ST

**Voting Start Date:** 7/22/2015 12:26:03 PM

**Voting End Date:** 7/31/2015 8:00:00 PM

**Ballot Type:** ST

**Ballot Activity:** FN

**Ballot Series:** 2

**Total # Votes:** 204

**Total Ballot Pool:** 225

**Quorum:** 90.67

**Weighted Segment Value:** 96.84

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	52	1	34	1	0	0	0	15	3
Segment: 2	8	0.7	7	0.7	0	0	0	1	0
Segment: 3	53	1	36	0.973	1	0.027	0	10	6
Segment: 4	18	1	12	0.923	1	0.077	0	3	2
Segment: 5	47	1	31	0.939	2	0.061	0	10	4
Segment: 6	35	1	19	0.95	1	0.05	0	9	6
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment: 9	2	0.2	2	0.2	0	0	0	0	0

Segment: 10	8	0.7	7	0.7	0	0	0	1	0
Totals:	225	6.8	150	6.585	5	0.215	0	49	21

## BALLOT POOL MEMBERS

Show  entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Ameren - Ameren Services	Eric Scott		None	N/A
1	Associated Electric Cooperative, Inc.	Phil Hart		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Abstain	N/A
1	BC Hydro and Power Authority	Patricia Robertson		Abstain	N/A
1	Beaches Energy Services	Don Cuevas		Affirmative	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Bonneville Power Administration	Donald Watkins		Affirmative	N/A
1	Bryan Texas Utilities	John Fontenot		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	Abstain	N/A

1	Con Ed - Consolidated Edison Co. of New York	Chris de Graffenried		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Larry Nash		Abstain	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	William Smith		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro-Qu?bec TransEnergie	Martin Boisvert		Affirmative	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane		Abstain	N/A
1	KAMO Electric Cooperative	Walter Kenyon		Affirmative	N/A
1	Lower Colorado River Authority	Teresa Cantwell		Abstain	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and	Mike O'Neil		Affirmative	N/A

	Light Co.				
1	NiSource - Northern Indiana Public Service Co.	Julaine Dyke		Abstain	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	PHI - Potomac Electric Power Co.	David Thorne		Affirmative	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Abstain	N/A
1	Portland General Electric Co.	John Walker		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Abstain	N/A
1	Public Utility District No. 2 of Grant County, Washington	Michiko Sell		Affirmative	N/A
1	Sacramento Municipal Utility District	Tim Kelley	Joe Tarantino	Abstain	N/A
1	Salt River Project	Steven Cobb		None	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Mark Churilla	Bret Galbraith	Abstain	N/A
1	Sho-Me Power Electric	Denise Stevens		Affirmative	N/A

	Cooperative				
1	Southern Company - Southern Company Services, Inc.	Robert A. Schaffeld		Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Tennessee Valley Authority	Howell Scott		Affirmative	N/A
1	Tri-State G and T Association, Inc.	Tracy Sliman		Abstain	N/A
1	United Illuminating Co.	Jonathan Appelbaum		Affirmative	N/A
1	Westar Energy	Kevin Giles		Abstain	N/A
1	Western Area Power Administration	Steve Johnson		None	N/A
2	BC Hydro and Power Authority	Venkataramakrishnan Vinnakota		Abstain	N/A
2	Electric Reliability Council of Texas, Inc.	christina bigelow		Affirmative	N/A
2	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Kathleen Goodman	Affirmative	N/A
2	New York Independent System Operator	Gregory Campoli		Affirmative	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	Lisa Martin		Affirmative	N/A

3	Avista - Avista Corporation	Scott Kinney		None	N/A
3	BC Hydro and Power Authority	Pat Harrington		Abstain	N/A
3	Beaches Energy Services	Steven Lancaster		Affirmative	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Thomas Mielnik	Darnez Gresham	Affirmative	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City of Green Cove Springs	Mark Schultz		Affirmative	N/A
3	City of Leesburg	Chris Adkins		Affirmative	N/A
3	City of Redding	Bill Hughes	Mary Downey	None	N/A
3	Clark Public Utilities	Jack Stamper		Abstain	N/A
3	Colorado Springs Utilities	Charles Morgan		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Kent Kujala		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Exelon	John Bee		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Theresa Ciancio		Affirmative	N/A
3	Florida Municipal Power Agency	Joe McKinney		Affirmative	N/A

3	Florida Power & Light	Summer Esquerre		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Abstain	N/A
3	Great River Energy	Brian Glover		Affirmative	N/A
3	KAMO Electric Cooperative	Ted Hilmes		Affirmative	N/A
3	Lakeland Electric	Mace Hunter		Affirmative	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Affirmative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Ramon Barany		Abstain	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove	John Hare	Negative	N/A
3	Omaha Public Power District	Blaine Dinwiddie		None	N/A
3	PHI - Potomac Electric Power Co.	Mark Yerger		Affirmative	N/A
3	Platte River Power Authority	Terry Baker		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A

3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Sacramento Municipal Utility District	Rachel Moore	Joe Tarantino	Abstain	N/A
3	Seattle City Light	Dana Wheelock		None	N/A
3	Seminole Electric Cooperative, Inc.	James Frauen		Abstain	N/A
3	Sho-Me Power Electric Cooperative	Jeff Neas		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Abstain	N/A
3	Southern Company - Alabama Power Company	R. Scott Moore		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tallahassee Electric (City of Tallahassee, FL)	John Williams		Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		None	N/A
3	Tennessee Valley Authority	Ian Grant		Affirmative	N/A
3	We Energies - Wisconsin Electric Power Marketing	Jim Keller		Affirmative	N/A
3	Westar Energy	Bo Jones		Abstain	N/A
4	Alliant Energy Corporation Services, Inc.	Kenneth Goldsmith		Affirmative	N/A
4	Austin Energy	Tina Garvey		Affirmative	N/A
4	City of Clewiston	Lynne Mila		Affirmative	N/A
4	City of New Smyrna Beach Utilities Commission	Tim Beyrle		Affirmative	N/A
4	City of Redding	Nick Zettel	Mary Downey	None	N/A
4	City of Winter Park	Mark Brown		Affirmative	N/A



4	DTE Energy - Detroit Edison Company	Daniel Herring		Affirmative	N/A
4	FirstEnergy - Ohio Edison Company	Doug Hohlbaugh		Affirmative	N/A
4	Florida Municipal Power Agency	Carol Chinn		Affirmative	N/A
4	Georgia System Operations Corporation	Guy Andrews		Negative	N/A
4	Keys Energy Services	Stanley Rzad		Affirmative	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Abstain	N/A
4	Sacramento Municipal Utility District	Michael Ramirez	Joe Tarantino	Abstain	N/A
4	Seattle City Light	Hao Li		Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		None	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Matthew Pacobit		Affirmative	N/A
5	Austin Energy	Jeanie Doty		None	N/A
5	BC Hydro and Power Authority	Clement Ma		Abstain	N/A
5	Bonneville Power Administration	Francis Halpin		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Affirmative	N/A

5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	City of Independence, Power and Light Department	Jim Nail		Affirmative	N/A
5	City of Redding	Paul Cummings	Mary Downey	None	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Abstain	N/A
5	Colorado Springs Utilities	Kaleb Brimhall		Negative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Brian O'Boyle		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Randi Heise		Abstain	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Edison International - Southern California Edison Company	Michael McSpadden		Affirmative	N/A
5	Exelon	Vince Catania		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	David Schumann		Affirmative	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	Lakeland Electric	Jim Howard		Affirmative	N/A
5	Lower Colorado River Authority	Dixie Wells		Abstain	N/A
5	Luminant - Luminant Generation Company LLC	Rick Terrill		Abstain	N/A
5	Manitoba Hydro	Yuguang Xiao		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A

5	MEAG Power	Steven Grego	Scott Miller	Affirmative	N/A
5	Nebraska Public Power District	Don Schmit		Affirmative	N/A
5	New York Power Authority	Wayne Sipperly		Affirmative	N/A
5	NextEra Energy	Allen Schriver		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Leo Staples		Affirmative	N/A
5	Oglethorpe Power Corporation	Bernard Johnson		Negative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A
5	OTP - Otter Tail Power Company	Cathy Fogale		Affirmative	N/A
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	PPL Generation LLC	Replacementvoter-Dan Wilson		Affirmative	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Abstain	N/A
5	Puget Sound Energy, Inc.	Lynda Kupfer		None	N/A
5	Sacramento Municipal Utility District	Susan Gill-Zobitz	Joe Tarantino	Abstain	N/A
5	Salt River Project	Kevin Nielsen		None	N/A
5	Seattle City Light	Mike Haynes		Abstain	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Chris Mattson		Affirmative	N/A
5	Tallahassee Electric	Karen Webb		Affirmative	N/A

	(City of Tallahassee, FL)				
5	Tennessee Valley Authority	Brandy Spraker		Affirmative	N/A
5	WEC Energy Group, Inc.	Linda Horn		Affirmative	N/A
5	Westar Energy	stephanie johnson		Abstain	N/A
6	AEP - AEP Marketing	Edward P Cox		None	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	Associated Electric Cooperative, Inc.	Brian Ackermann		Affirmative	N/A
6	Austin Energy	Andrew Gallo		Affirmative	N/A
6	Bonneville Power Administration	Alex Spain		Affirmative	N/A
6	City of Redding	Marvin Briggs	Mary Downey	None	N/A
6	Cleco Corporation	Robert Hirschak	Louis Guidry	Abstain	N/A
6	Colorado Springs Utilities	Shannon Fair		Negative	N/A
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Louis Slade		Abstain	N/A
6	Exelon	Dave Carlson		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Florida Municipal Power Agency	Richard Montgomery		Affirmative	N/A
6	Florida Municipal Power Pool	Tom Reedy		Affirmative	N/A
6	Great Plains Energy - Kansas City Power and Light Co.	Chris Bridges		None	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A

6	Lower Colorado River Authority	Michael Shaw		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik	Simon Tanapat	Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Abstain	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Jerry Nottnagel	Sing Tay	Affirmative	N/A
6	Omaha Public Power District	Mark Trumble		None	N/A
6	Platte River Power Authority	Carol Ballantine		None	N/A
6	PPL - Louisville Gas and Electric Co.	OELKER LINN		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Jara		Affirmative	N/A
6	Sacramento Municipal Utility District	Diane Clark	Joe Tarantino	Abstain	N/A
6	Salt River Project	William Abraham		None	N/A
6	Seattle City Light	Charles Freeman		Abstain	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Abstain	N/A
6	Snohomish County PUD No. 1	Kenn Backholm		Abstain	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	John J. Ciza		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Rick Applegate		Affirmative	N/A

6	Tennessee Valley Authority	Marjorie Parsons		Affirmative	N/A
6	Westar Energy	Tiffany Lake		Abstain	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Massachusetts Attorney General	Frederick Plett		Affirmative	N/A
9	City of Vero Beach	Ginny Beigel		Affirmative	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Florida Reliability Coordinating Council	Peter Heidrich		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Joe Spencer		Abstain	N/A
10	Southwest Power Pool Regional Entity	Bob Reynolds		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

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**EXHIBIT G**

**Standard Drafting Team Roster**

## Team Roster

Project 2015-06

Interconnected Reliability Operations and Coordination

Role	Participant	Contact Information
Chair	Stephen Solis	ERCOT 2705 West Lake Drive, Taylor, Texas 76574 512-248-6772
Vice-chair	Donald Reichenbach	Duke Energy 526 South Church Street Charlotte, NC 28202 704-382-3146
Member	Don Badley	Northwest Power Pool 7505 NE Ambassador Place, Suite R Portland, OR 97220 503-819-4517
Member	Gregory Campoli	NYISO 10 Krey Blvd. Rensselaer, NY 12144 518-356-6159
Member	Anthony Jankowski	We Energies W237N1500 Busse Rd. Waukesha, WI 53188 262-544-7117
Member	Tony Rowan	Mid-Continent Independent System Operator 2985 Ames Crossing Road Eagan MN 55121 651-632-8403
Member	Brian Strickland	Southwest Power Pool, Inc. 201 Worthen Drive Little Rock, AR 72223 501-688-8308



Member	Bob Tallman	LG&E and KU Energy 220 West Main Street Louisville, KY 40202 502-627-3414
NERC staff	Katherine Street – Standard Developer	North American Electric Reliability Corporation 3353 Peachtree Road NE Suite 600, North Tower Atlanta, GA 30326 404-446-9702
NERC staff	Laura Anderson – Standard Developer	North American Electric Reliability Corporation 3353 Peachtree Road NE Suite 600, North Tower Atlanta, GA 30326 404-446-9671
NERC staff	Sean Cavote – Manager of Standards Development	North American Electric Reliability Corporation 3353 Peachtree Road NE Suite 600, North Tower Atlanta, GA 30326 404-446-9697
NERC staff	Stephen Crutchfield – Senior Standard Developer	North American Electric Reliability Corporation 3353 Peachtree Road NE Suite 600, North Tower Atlanta, GA 30326 404-446-9697
NERC staff	Andrew Wills – NERC Legal	North American Electric Reliability Corporation 1325 G Street NW, Suite 600 Washington, DC 20005 202-400-3015
FERC staff	Susan Morris	Office of Electric Reliability Federal Energy Regulatory Commission 202-502-6803
FERC staff	Nick Henery	Office of Electric Reliability Federal Energy Regulatory Commission 202-502-8636
FERC staff	Ena Agbedia	Office of Electric Reliability Federal Energy Regulatory Commission
PMOS Rep	Charles Yeung	SPP 832-724-6142