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**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**North American Electric Reliability**            )  
**Corporation**    )

**Docket No.** \_\_\_\_\_

**PETITION OF THE  
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION  
FOR APPROVAL OF PROPOSED INTERCONNECTION RELIABILITY  
OPERATIONS AND COORDINATION RELIABILITY STANDARDS**

Gerald W. Cauley  
President and Chief Executive Officer  
North American Electric Reliability Corporation  
3353 Peachtree Road, N.E.  
Suite 600, North Tower  
Atlanta, GA 30326  
(404) 446-2560  
(404) 446-2595– facsimile

Charles A. Berardesco  
Senior Vice President and General Counsel  
Holly A. Hawkins  
Associate General Counsel  
Andrew C. Wills  
Associate Counsel  
North American Electric Reliability Corporation  
1325 G Street, N.W., Suite 600  
Washington, D.C. 20005  
(202) 400-3000  
(202) 644-8099– facsimile  
charles.berardesco@nerc.net  
holly.hawkins@nerc.net  
andrew.wills@nerc.net

*Counsel for the North American Electric  
Reliability Corporation*

September 16, 2015

**TABLE OF CONTENTS**

I. EXECUTIVE SUMMARY.....2

II. NOTICES AND COMMUNICATIONS.....4

III. BACKGROUND.....4

    A. Regulatory Framework.....4

    B. NERC Reliability Standards Development Procedure.....5

    C. History of Project 2015-06 - Interconnection Reliability Operations and  
        Coordination.....6

        i. IRO-006-EAST-2.....6

        ii. IRO-009-2.....7

IV. JUSTIFICATION FOR APPROVAL.....9

    A. Proposed Reliability Standard IRO-006-EAST-2.....10

        1. Requirement-by-Requirement Justification.....10

    B. Proposed Reliability Standard IRO-009-2.....14

        1. Requirement-by-Requirement Justification.....15

    C. Enforceability of the Proposed Reliability Standards.....19

V. EFFECTIVE DATE.....20

VI. CONCLUSION.....21

**Exhibit A** Proposed Reliability Standards

**Exhibit A-1** Proposed Reliability Standard IRO-006-EAST-2

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

**Exhibit B** Implementation Plans

**Exhibit B-1** Implementation Plan for IRO-006-EAST-2

**Exhibit B-2** Implementation Plan for IRO-009-2

**Exhibit C** Order No. 672 Criteria

**Exhibit D** Mapping Document

**Exhibit E** Analysis of Violation Risk Factors and Violation Severity Levels

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

**Exhibit G** Standard Drafting Team Roster

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OPERATIONS AND COORDINATION RELIABILITY STANDARDS**

Pursuant to Section 215(d)(1) of the Federal Power Act (“FPA”)<sup>1</sup> and Section 39.5<sup>2</sup> of the Federal Energy Regulatory Commission’s (“FERC” or “Commission”) regulations, the North American Electric Reliability Corporation (“NERC”)<sup>3</sup> hereby submits for Commission approval Reliability Standards IRO-006-EAST-2 (*Transmission Loading Relief Procedure for the Eastern Interconnection*) and IRO-009-2 (*Reliability Coordinator Actions to Operate within IROs*). NERC requests that the Commission approve the proposed Reliability Standards as just, reasonable, not unduly discriminatory or preferential, and in the public interest. NERC also proposes to retire the currently effective versions of these standards, Reliability Standards IRO-006-EAST-1 and IRO-009-1, upon Commission approval of the proposed Reliability Standards. Along with approval of Reliability Standards IRO-006-EAST-2 and IRO-009-2 and retirement of the currently effective versions of those standards, NERC requests approval of (i) the associated Implementation Plans (**Exhibit B**), and (ii) the Violation Risk Factors (“VRFs”) and Violation

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<sup>1</sup> 16 U.S.C. § 824o (2006).  
<sup>2</sup> 18 C.F.R. § 39.5 (2012).  
<sup>3</sup> The Commission certified NERC as the electric reliability organization (“ERO”) in accordance with Section 215 of the FPA on July 20, 2006. *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61,062 (2006).

Severity Levels (“VSLs”) (**Exhibit E**). The NERC Board of Trustees (“Board”) adopted proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 on August 13, 2015.<sup>4</sup>

As required by Section 39.5(a)<sup>5</sup> of the Commission’s regulations, this petition presents the technical basis and purpose of the proposed Reliability Standards, a demonstration that the proposed Reliability Standards meet the criteria identified by the Commission in Order No. 672<sup>6</sup> (**Exhibit C**), and a summary of the development proceedings (**Exhibit F**).

## **I. EXECUTIVE SUMMARY**

As outlined above, NERC is proposing for approval two Interconnection Reliability Operations and Coordination (“IRO”) Reliability Standards that continue the work initiated in two related NERC projects. First, the Project 2012-09 – Interconnection Reliability Operations five-year review team (“FYRT” or “IRO FYRT”) performed a periodic review of existing IRO standards and made recommendations for revision and retirement of a number of those standards.<sup>7</sup> Second, the standard drafting team for Project 2014-03 – Revisions to TOP and IRO Standards further refined the IRO suite of standards by recommending retirement of five IRO standards, leaving only two recommendations from Project 2012-09 to be implemented.<sup>8</sup> The

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<sup>4</sup> See Board Agenda, Board of Trustees Meeting – August 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).

<sup>5</sup> 18 C.F.R. § 39.5(a) (2012).

<sup>6</sup> The Commission specified in Order No. 672 certain general factors it would consider when assessing whether a particular Reliability Standard is just and reasonable. See *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, FERC Stats. & Regs. ¶ 31,204, at P 262, 321-37, order on reh’g, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

<sup>7</sup> The standard drafting team for Project 2012-09 recommended retirement of IRO-004-2 and IRO-005-4 and revisions to IRO-001-3, IRO-003-2, IRO-006-EAST, IRO-008-1, IRO-009-1, and IRO-010-1a.

<sup>8</sup> The standard drafting team for Project 2014-03 proposed revisions to IRO-001-3 and recommended retirement of IRO-003-2, IRO-004-2, IRO-005-4, IRO-008-1, and IRO-010-1a. After work in that project was completed, only two standards, IRO-006-EAST-1 and IRO-009-1, were left to be revised from the IRO FYRT recommendations.

proposed standards that are the subject of this petition represent the standards that were recommended for revision in Project 2012-09 but that were not retired in Project 2014-03.

Proposed Reliability Standard IRO-006-EAST-2 is an improvement to the existing version of the standard because it removes redundant requirements based on Paragraph 81<sup>9</sup> criteria, revises existing language to clearly delineate applicable entities and the specific actions required, and relocates information in bullet points and subparts to the Requirements. Proposed Reliability Standard IRO-009-2 is an improvement to the existing version of the standard because it combines two existing requirements, revises existing language to clearly delineate applicable entities and the specific actions required, and removes unnecessary language. Both proposed Reliability Standards implement language revisions and format improvements for consistency with recent Board approved Reliability Standards.<sup>10</sup>

As described above, the proposed standards substantially improve the existing versions, IRO-006-EAST-1 and IRO-009-1, and will retire these standards upon approval.

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<sup>9</sup> In Paragraph 81 of the Commission's *Order Accepting with Conditions the Electric Reliability Organization's Petition Requesting Approval of New Enforcement Mechanisms and Requiring Compliance Filing*, the Commission encouraged NERC to identify requirements in Reliability Standards that would likely provide little protection for Bulk-Power System reliability or may be redundant. Consistent with the Commission's guidance NERC initiated the "P 81 Project" to identify such requirements. *See N. Am. Elec. Reliability Corp.*, 138 FERC ¶ 61,193 at P 81 (2012) ("P 81").

<sup>10</sup> The standard drafting team for Project 2015-06 found that Requirements R3 and R4 of IRO-009-1 should be revised for consistency with Requirement R14 of TOP-001-3. Also, the team found that Requirement R5 of IRO-006-EAST-1 should be revised for consistency with Requirement R18 of TOP-001-3.

## **II. NOTICES AND COMMUNICATIONS**

Notices and communications with respect to this filing may be addressed to the following:<sup>11</sup>

Charles A. Berardesco\*  
Senior Vice President and General Counsel  
Holly A. Hawkins\*  
Associate General Counsel  
Andrew C. Wills  
Associate Counsel  
North American Electric Reliability Corporation  
1325 G Street, N.W., Suite 600  
Washington, D.C. 20005  
(202) 400-3000  
(202) 644-8099 – facsimile  
charles.berardesco@nerc.net  
holly.hawkins@nerc.net  
andrew.wills@nerc.net

Howard Gugel  
Director of Standards  
North American Electric Reliability Corporation  
3353 Peachtree Road, N.E.  
Suite 600, North Tower  
Atlanta, GA 30326  
(404) 446-2560  
(404) 446-2595 – facsimile  
howard.gugel@nerc.net

## **III. BACKGROUND**

### **A. Regulatory Framework**

By enacting the Energy Policy Act of 2005,<sup>12</sup> Congress entrusted the Commission with the duties of approving and enforcing rules to ensure the reliability of the nation's Bulk-Power System, and with the duties of certifying an ERO that would be charged with developing and enforcing mandatory Reliability Standards, subject to Commission approval. Section 215(b)(1) of the FPA states that all users, owners, and operators of the Bulk-Power System in the United States will be subject to Commission-approved Reliability Standards.<sup>13</sup> Section 215(d)(5) of the FPA authorizes the Commission to order the ERO to submit a new or modified Reliability Standard.<sup>14</sup> Section 39.5(a) of the Commission's regulations requires the ERO to file with the

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<sup>11</sup> Persons to be included on the Commission's service list are identified by an asterisk. NERC respectfully requests a waiver of Rule 203 of the Commission's regulations, 18 C.F.R. § 385.203 (2012), to allow the inclusion of more than two persons on the service list in this proceeding.

<sup>12</sup> 16 U.S.C. § 824o (2012).

<sup>13</sup> *Id.*, at § 824(b)(1).

<sup>14</sup> *Id.*, at § 824o(d)(5).

Commission for its approval each Reliability Standard that the ERO proposes should become mandatory and enforceable in the United States, and each modification to a Reliability Standard that the ERO proposes should be made effective.<sup>15</sup>

The Commission has the regulatory responsibility to approve Reliability Standards that protect the reliability of the Bulk-Power System and to ensure that such Reliability Standards are just, reasonable, not unduly discriminatory or preferential, and in the public interest. Pursuant to Section 215(d)(2) of the FPA<sup>16</sup> and Section 39.5(c) of the Commission's regulations, "the Commission will give due weight to the technical expertise of the ERO" with respect to the content of a Reliability Standard.<sup>17</sup>

#### **B. NERC Reliability Standards Development Procedure**

The proposed Reliability Standards were developed in an open and fair manner and in accordance with the Commission-approved Reliability Standard development process.<sup>18</sup> NERC develops Reliability Standards in accordance with Section 300 (Reliability Standards Development) of its Rules of Procedure and the NERC Standard Processes Manual.<sup>19</sup> In its order certifying NERC as the Commission's ERO, the Commission found that NERC's proposed rules provide for reasonable notice and opportunity for public comment, due process, openness,

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<sup>15</sup> 18 C.F.R. § 39.5(a) (2014).

<sup>16</sup> 16 U.S.C. § 824o(d)(2).

<sup>17</sup> 18 C.F.R. § 39.5(c)(1) (2014).

<sup>18</sup> *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672 at P 334, FERC Stats. & Regs. ¶ 31,204, *order on reh'g*, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006) ("Further, in considering whether a proposed Reliability Standard meets the legal standard of review, we will entertain comments about whether the ERO implemented its Commission-approved Reliability Standard development process for the development of the particular proposed Reliability Standard in a proper manner, especially whether the process was open and fair. However, we caution that we will not be sympathetic to arguments by interested parties that choose, for whatever reason, not to participate in the ERO's Reliability Standard development process if it is conducted in good faith in accordance with the procedures approved by FERC.").

<sup>19</sup> The NERC *Rules of Procedure*, available at <http://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx>. The NERC *Standard Processes Manual*, available at [http://www.nerc.com/comm/SC/Documents/Appendix\\_3A\\_StandardsProcessesManual.pdf](http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf).

and a balance of interests in developing Reliability Standards,<sup>20</sup> and thus satisfy certain of the criteria for approving Reliability Standards.<sup>21</sup> The development process is open to any person or entity with a legitimate interest in the reliability of the Bulk-Power System. NERC considers the comments of all stakeholders, and a vote of stakeholders and the NERC Board is required to approve a Reliability Standard before the Reliability Standard is submitted to the Commission for approval.

### **C. History of Project 2015-06 -- Interconnection Reliability Operations and Coordination**

As described below, proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 were designed by the Project 2015-06 standard drafting team to address recommendations of the IRO FYRT for improvement of several IRO standards. For a summary of the development history in Project 2015-06 and the complete record of development, see **Exhibit F**.

#### **1. IRO-006-EAST-2**

In Order No. 693, the Commission directed NERC to improve Reliability Standard IRO-006-3 to ensure that there is no conflict between the regional and continent-wide standards related to transmission loading relief.<sup>22</sup> On January 13, 2011, NERC submitted a petition for several new IRO standards, and among these, NERC requested approval of IRO-006-EAST-1 to set transmission loading relief requirements for the Eastern Interconnection to meet the directive from Order No. 693 referenced above.<sup>23</sup> Reliability Standard IRO-006-EAST-1 was approved

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<sup>20</sup> *N. Am. Elec. Reliability Corp*, 116 FERC ¶ 61,062, at P 250.

<sup>21</sup> Order No. 672, at PP 268, 270.

<sup>22</sup> *Mandatory Reliability Standards for the Bulk-Electric System*, Order No. 693 at P 964 (the relevant directive states that the Commission “directs the ERO to modify the WECC and ERCOT procedures to ensure consistency with the standard form of the Reliability Standards including Requirements, Measures and Levels of Non- Compliance.”)

<sup>23</sup> *Petition of the North American Electric Corporation for Approval of Proposed New Interconnection Reliability Operations and Coordination Reliability Standards, Glossary Term and Implementation Plan*, Docket No. RM06-16-000 (filed Jan. 13, 2011).



by the Commission in an order issued on April 21, 2011,<sup>24</sup> as amended on April 29, 2011.<sup>25</sup> This standard establishes communications and coordination requirements for transmission loading relief procedures relating to Interconnection-wide congestion management procedures and the transfer of power from one Interconnection to another.

The IRO FYRT recommended revisions to IRO-006-EAST and presented a Standard Authorization Request (“SAR”) to the Standards Committee (“SC”) on October 17, 2013 that included these recommendations.<sup>26</sup> On March 11, 2015, the SC accepted the SAR as a precursor for development in Project 2015-06<sup>27</sup>, and as a result of work in that project, the standard drafting team developed proposed Reliability Standard IRO-006-EAST-2. Proposed Reliability Standard IRO-006-EAST-2 is intended to replace IRO-006-EAST-1, because it improves upon existing language by clarifying the applicable entities and the required actions, removing requirements that are included in other Reliability Standards, and relocating existing requirement parts into the main requirement.

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

In Order No. 693, the Commission directed NERC to develop modifications to existing IRO Reliability Standards (i) to ensure that a minimum set of capabilities are made available to the Reliability Coordinator to ensure that it has the capabilities needed to adequately perform its

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<sup>24</sup> *N. Am. Elec. Reliability Corp.*, 135 FERC ¶ 61,043 (2011).

<sup>25</sup> Errata Notice, Docket No. RD11-2-000 (2011).

<sup>26</sup> See Project 2012-09 Development Page, available at <http://www.nerc.com/pa/stand/pages/project201209iroreview.aspx>.

<sup>27</sup> See Standards Committee Agenda – March 11, 2015, available at <http://www.nerc.com/comm/SC/Agenda%20Highlights%20and%20Minutes/Standard%20Committee%20Meeting%20Minutes%20March%2011,%202015%20-%20Approved.pdf>.

functions<sup>28</sup>, and (ii) to require a next-day analysis to be performed to identify actions that can be implemented and effective within 30 minutes after a contingency.<sup>29</sup>

On December 31, 2009, NERC submitted a petition for approval of several new or revised IRO standards, and among these, NERC requested approval of IRO-009-1 to respond to the two Commission directives in Order No. 693 referenced above. First, IRO-009-1 required Reliability Coordinators to have plans to address exceedances of IROs.<sup>30</sup> Second, IRO-009-1 required Reliability Coordinators to have a plan to resolve IROL that are identified during the “day-ahead” study within 30 minutes. The standard was designed to apply only to Reliability Coordinators and 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 [IROs].” The Commission approved Reliability Standard IRO-009-1 and nine other standards in Order No. 748 on March 17, 2011, to ensure that Reliability Coordinators have the data necessary to assess its Reliability Coordinator area during the operations horizon and to ensure that the Reliability Coordinator takes prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits.<sup>31</sup>

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<sup>28</sup> *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, 72 FR 16416 (Apr. 4, 2007), FERC Stats. & Regs. ¶ 31,242, *order on reh’g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007) (the applicable portion of the directive in Paragraph 566 states that the Commission “directs the ERO to develop a modification to EOP-001-0 through the Reliability Standards development process that: (1) includes the Reliability Coordinator as an applicable entity with responsibilities as described above...” Paragraph 547 clarifies this directive by stating that, “Given the importance NERC attributes to the reliability coordinator in connection with matters covered by EOP-001-0, the Commission is persuaded that specific responsibilities for the reliability coordinator in the development and coordination of emergency plans must be included as part of this Reliability Standard.”)

<sup>29</sup> *Id.* at P 935 (the applicable directive requires NERC “to modify IRO-004-1 through the Reliability Standards development process to require the next-day analysis to identify control actions that can be implemented and effective within 30 minutes after a contingency.”).

<sup>30</sup> *Petition of the North American Electric Reliability Corporation for Approval of Proposed New and Revised Reliability Standards for Operating within Interconnection Operating Limits*, Docket No. RM06-16-000 (filed Dec. 31, 2009) (In its petition, NERC asserts that the development of IRO-009-1 addressed directives in Paragraphs 547, 566, and 935 of Order No. 693.).

<sup>31</sup> *Mandatory Reliability Standards for Interconnection Reliability Operating Limits*, Order No. 748, 134 FERC ¶ 61,213 (2011).

The IRO FYRT recommended revisions to IRO-009-1 and presented a SAR to the SC on October 17, 2013 that included these recommendations.<sup>32</sup> On March 11, 2015, the SC accepted the SAR as a precursor for development in Project 2015-06, and the standard drafting team for Project 2015-06 developed proposed Reliability Standard IRO-009-2.<sup>33</sup> Proposed Reliability Standard IRO-009-2 improves IRO-009-1 because it combines two existing requirements into one requirement with two subparts to make the requirements more clear and concise, it identifies the applicable entity and the actions required by the standard, it removes unnecessary language, and it implements commonly used terms and phrases for consistency with other Board approved standards.

#### **IV. JUSTIFICATION FOR APPROVAL**

As discussed in detail in **Exhibit C**, proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 satisfy the Commission's criteria in Order No. 672 and are just, reasonable, not unduly discriminatory or preferential, and in the public interest. The following subsections provide: (A) a description of each proposed standard, the reliability purposes of each, and applicable entities to which the standards apply; (B) justification for each proposed standard, detailing the proposed revisions; and (C) discussion of the enforceability of the proposed standards. As discussed below, the scope of revisions are consistent with the recommendations provided by the FYRT in Project 2012-09 to improve the quality, relevance, and clarity of the standards.

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<sup>32</sup> See Project 2012-09 Development Page, available at <http://www.nerc.com/pa/stand/pages/project201209iroreview.aspx>.

<sup>33</sup> See Standards Committee Agenda – March 11, 2015, available at <http://www.nerc.com/comm/SC/Agenda%20Highlights%20and%20Minutes/Standard%20Committee%20Meeting%20Minutes%20March%2011,%202015%20-%20Approved.pdf>.

**A. Proposed Reliability Standard IRO-006-EAST-2 – Transmission Loading Relief Procedure for the Eastern Interconnection**

The purpose of proposed Reliability Standard IRO-006-EAST-2 is “[t]o 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).” This purpose statement reflects minor language revisions made by the IRO SDT to the current Board approved purpose statement of IRO-006-EAST-1 to improve clarity and to more accurately reflect the true purpose of IRO-006-EAST-2. As the standard is a regional Reliability Standard that applies to entities in the Eastern Interconnection, it only applies to Reliability Coordinators in the Eastern Interconnection.

Proposed Reliability Standard IRO-006-EAST-2 improves the existing version of the standard by removing redundant requirements, revising existing language for clarity, and streamlining several portions of the standard to emphasize the requirements that are necessary to ensure reliability. Along with proposed IRO-006-EAST-2, the IRO SDT also proposes to retire the existing Reliability Standard IRO-006-EAST-1 as described in the Implementation Plan for IRO-006-EAST-2 (See **Exhibit B-1**) to ensure a seamless transition to the newly revised standard.

**1. Requirement-by-Requirement Justification**

**i. IRO-006-EAST-1, Requirement R1**

The IRO FYRT recommended that Requirement R1 of IRO-006-EAST-1 be retired, as it is redundant with existing and enforceable Reliability Standard IRO-008-1, Requirement R3, and Reliability Standard IRO-009-1, Requirement R4. In reaching this conclusion, the IRO FYRT

confirmed that existing IRO-008-1 and IRO-009-1 are results based standards compliant with NERC's recent initiative to ensure that its standards focus on required actions or results and identify a clear and measurable expected reliability objective to be achieved. Further, the IRO FYRT determined that Requirement R1 of IRO-006-EAST-1 only provides a list of actions that the Reliability Coordinator should take but does not place specific parameters around how these actions should be taken to achieve a specific result.

The IRO SDT agrees that Requirement R1 is duplicative with other enforceable Reliability Standards. Based on this and the recommendations provided by the IRO FYRT mentioned above, the IRO SDT determined that retirement of the entirety of Requirement R1 is warranted; thus, Requirement R1 and Measure M1 of existing IRO-006-EAST-1 have been removed from proposed Reliability Standard IRO-006-EAST-2.

## ii. IRO-006-EAST-1, Requirement R2

The IRO SDT instituted revisions to Requirement R2 of IRO-006-EAST-1 to improve its clarity and to streamline the existing Requirement parts into the main requirement. Requirement R2, which now becomes Requirement R1 of IRO-006-EAST-2, has been revised as follows:

**R2.R1.** 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~~

~~2.2. 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>2</sup>~~

These modifications only improve existing language and move Requirement parts into the body of the Requirement. Because of this, the IRO SDT determined that these changes will not negatively affect reliability but will improve it because the Requirement is now clearer.

Along with the modifications reflected in the redline above, the IRO SDT also slightly revised the associated measure (Measure M2 in IRO-006-EAST-1, now measure M1 of proposed IRO-006-EAST-2) for consistency with the revised numbering of the Requirements.

### **iii. IRO-006-EAST-1, Requirement R3**

The IRO FYRT recommended that Requirement R3 of IRO-006-EAST-1 be retired, as it an administrative requirement that meets Paragraph 81 Criterion B1 – Administrative.<sup>34</sup> In reaching that conclusion, the FYRT determined that, when an Interchange Distribution Calculator (“IDC”) failure occurs, TLR action would be limited and would result in required manual actions to preserve the reliability of the Bulk Electric System. Because TLR action is limited, Requirement R3 does not actually define a curtailment that occurs upon failure of the IDC; rather, the actions defined in existing Requirement R3 are generated automatically through the IDC tool and sent to proper entities upon issuance of the TLR, so Requirement R3 is unnecessary.

Requirement R3 does not provide reliability benefits and is simply administrative in nature. Based on this and other justifications explained by the IRO FYRT as mentioned above, the IRO SDT determined that retirement of the entirety of Requirement R3 is warranted, and thus, Requirement R3 and Measure M3 of existing IRO-006-EAST-1 have been removed from proposed Reliability Standard IRO-006-EAST-2.

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<sup>34</sup> Paragraph 81 of the Commission’s *Order Accepting with Conditions*, *supra* note 7.

#### iv. IRO-006-EAST-1, Requirement R4

The IRO SDT instituted revisions to Requirement R4 of IRO-006-EAST-1 to improve its clarity and to streamline language in three of the existing bullets to the Requirement. Further, the IRO SDT modified one of the existing bullets to create a requirement instead of a passive statement with no firm action item that is required for applicable entities. Requirement R4 of IRO-006-EAST-1, which now becomes Requirement R2 of IRO-006-EAST-2, has been revised as follows:

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

These modifications improve existing language and move existing bullets into the body of the Requirement. The IRO SDT determined that these changes will not negatively affect reliability but will improve it because the Requirement is now clearer. In addition to these minor

changes, the IRO SDT revised language in the last bullet point of the existing Requirement R4 so that it is a mandatory and enforceable requirement instead of a declaratory statement. The IRO SDT determined that requiring this activity (the coordination of alternate congestion management actions between the “Reliability Coordinator with a Sink Balancing Authority” and the “issuing Reliability Coordinator) will improve reliability because it insists that coordination of congestion management actions occurs.

Along with the modifications reflected in the redline above, the IRO SDT also improved the associated measure (Measure M4 of IRO-006-EAST-1, now Measure M2 of IRO-006-EAST-2). The new proposed Measure takes into account the improved language of proposed Requirement R2 and ensures that applicable entities are compliant with the language of the newly enforceable requirement for Reliability Coordinators to coordinate congestion management actions.

**B. Proposed Reliability Standard IRO-009-2 – Reliability Coordinator Actions to Operate Within IROLs**

The purpose of proposed Reliability Standard IRO-009-2 is “[t]o 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).” The standard applies only to Reliability Coordinators. As described below, proposed Reliability Standard IRO-009-2 improves the existing version of the standard by streamlining existing requirements to make existing requirements more concise, revising existing language to improve clarity and consistency with other Board approved standards, and removing redundant and unnecessary language. Along with proposed IRO-009-2, the IRO SDT also proposes to retire the existing Reliability Standard IRO-



009-1 as described in the Implementation Plan for IRO-009-2 (See Exhibit B-2) to ensure a seamless transition to the newly revised standard.

## **1. Requirement-by-Requirement Justification**

### **i. IRO-009-1, Requirements R1 and R2**

The IRO SDT combined Requirements R1 and R2 of IRO-009-1 to improve the clarity and to simplify the language, as both contained similar language. Requirements R1 and R2 of IRO-009-1, which now become Requirement R1 in proposed Reliability Standard IRO-009-2, have been revised as follows:

- 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~~ the Reliability Coordinator 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.~~ 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.
- 1.2 ~~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 shall take or actions it shall direct others to take (up to and including load shedding)~~ To mitigate the magnitude and duration of ~~exceeding 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*)

These modifications improve existing language and consolidate the two Requirements into one Requirement related to actions to prevent or mitigate IROL exceedances. The IRO SDT determined that these changes will not negatively affect reliability but will improve it because the combined Requirement is now clearer.

Along with the modifications reflected in the redline above, the IRO SDT improved the associated proposed Measure M1 of IRO-009-1 to take into account the combined Requirements R1 and R2.

**ii. IRO-009-1, Requirement R3**

The IRO SDT revised the language of existing Requirement R3 to improve its clarity and consistency with other Board approved standards. As an example, the IRO SDT cited recently revised Requirement R14 of Reliability Standard TOP-001-3 which uses the terms “IROL exceedance,” “Real-time monitoring,” and “Real-time Assessments” as they relate to an entity’s Operating Plan. Requirements R3 of IRO-009-1, which now becomes Requirement R2 in proposed Reliability Standard IRO-009-2, has been revised as follows:

**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*)

The IRO SDT determined that these changes will not negatively affect reliability but will improve it because the combined Requirement is now clearer and consistent with other Board approved Reliability Standards.

Along with the modifications reflected in the redline above, the IRO SDT also created an associated Measure to take into account its effort to improve existing Requirement R3 of IRO-009-1. This Measure requires each Reliability Coordinator to have evidence that it complied with proposed Requirement R2 of IRO-009-2, including, but not limited to, “Operating Processes, Operating Procedures, or Operating Plans, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.”

**iii. IRO-009-1, Requirement R4**

The IRO SDT made several improvements to existing language in Requirement R4 of Reliability Standard IRO-009-1 to improve clarity and consistency with similar Board approved Reliability Standards and to remove redundancy in that Requirement.

After reviewing the existing language in Requirement R4 of IRO-009-1, the IRO SDT determined that, by stating that the applicable entities must “act or direct others to act” to mitigate “the magnitude and duration” of an IROL exceedance, the language in the Requirement already implies that actions must be taken immediately. Requirement R4 of existing IRO-009-1 requires that actions be taken “without delay,” but given that this timing is implied, “without delay” is not necessary. Accordingly, the IRO SDT removed the language “without delay” from the Requirement. Similar to improvements mentioned above, the IRO SDT also improved language in existing Requirement R4 to ensure consistency with other Board approved Reliability Standards, including Requirement R14 of Reliability Standard TOP-001-3. Requirement R4 of IRO-009-1, which now becomes Requirement R3 in proposed Reliability Standard IRO-009-2, has been revised as follows:

**~~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  $T_v$ , as identified in the Reliability Coordinator’s Real-time monitoring or Real-time Assessment. (*Violation Risk Factor: High*) (*Time Horizon: Real-time Operations*)

The IRO SDT determined that these changes will not negatively affect reliability but will improve it because the Requirement is now clearer and consistent with other Board approved Reliability Standards.

Along with the modifications reflected in the redline above, the IRO SDT also improved the existing associated measure (Measure M4 in existing IRO-009-1, now Measure M3 in

proposed Reliability Standard IRO-009-2) to take into account its effort to improve this Requirement. This Measure requires each Reliability Coordinator to have evidence that it complied with proposed Requirement R3 of IRO-009-2, including, but not limited to, “Operating Processes, Operating Procedures, or Operating Plans, dated operating logs, dated voice recordings, dated transcripts of voice recordings, or other evidence.”

**iv. IRO-009-1, Requirement R5**

The IRO SDT revised the language of existing Requirement R5 of Reliability Standard IRO-009-1 to improve its clarity and consistency with other Board approved standards. In its justification for improving the standard for consistency with other Board approved standards, the IRO SDT cited recently revised Requirement R18 of Reliability Standard TOP-001-3, which requires Transmission Operators to operate to the “most limiting parameter in instances where there is a difference in SOLs.” To mimic this language in the existing Requirement, the IRO SDT revised it to state that the Reliability Coordinator must operate to “the most limiting IROL and  $T_v$  in instances where there is difference in an IROL or its  $T_v$  between Reliability Coordinators that are responsible for that Facility (or group of Facilities).”

Requirements R5 of IRO-009-1, which now becomes Requirement R4 in proposed Reliability Standard IRO-009-2, has been revised as follows:

**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)*

The IRO SDT determined that these changes will not negatively affect reliability but will improve it because the combined Requirement is now clearer and consistent with other Board approved Reliability Standards.

Along with the modifications reflected in the redline above, the IRO SDT also improved the associated measure (Measure M5 of IRO-009-1, now Measure 4 of proposed IRO-009-2) to take into account its effort to improve the related Requirement. Consistent with revisions to the Requirement, revisions to Measure M5 of existing Reliability Standard IRO-009-1 remove the existing language “without delay” and implements the language “to the most limiting IROL and  $T_v$  in instances where there is a difference in an IROL or its  $T_v$ ,” as mentioned above.

### **C. Enforceability of the Proposed Reliability Standards**

As described in the relevant justifications above, the proposed Reliability Standards include Measures that support each Requirement to help ensure that the Requirements will be enforced in a clear, consistent, non-preferential manner and without prejudice to any party. The proposed Reliability Standards also include VRFs and VSLs for each Requirement, which are part of several elements used to determine an appropriate sanction when the associated Requirement is violated. Specifically, the VSLs provide guidance on the way that NERC will enforce the Requirements of the proposed Reliability Standards, and the VRFs assess the impact to reliability of violating a specific Requirement.

The two Requirements in proposed Reliability Standard IRO-006-EAST-2 are improvements to existing requirements, Requirements R2 and R4, of IRO-006-EAST-1. Because the substance of these proposed Requirements track to the related existing Requirements, the IRO SDT did not feel that a change in the VRFs for those Requirements was warranted. The IRO SDT did, however, revise the VSL for Requirement R2 to conform to the revisions made to the language in that Requirement. Further, proposed Reliability Standard IRO-006-EAST-2 seeks to retire two requirements that existed in IRO-006-EAST-1,

Requirements R1 and R3, so the VRFs and VSLs for these Requirements have not been included in proposed IRO-006-EAST-2.

The four Requirements in proposed Reliability Standard IRO-009-2 consolidate and improve the existing five Requirements in existing Reliability Standard IRO-009-1. Because Requirements R1 and R2 of the existing IRO-009-1 both had a VRF of medium, the IRO SDT also assigned Requirement R1 of proposed IRO-009-2, which combines Requirements R1 and R2 of the existing standard, a VRF of medium. Requirement R2, Requirement R3, and Requirement R4 of proposed IRO-009-2 map to Requirements R3, R4, and R5 of existing IRO-009-1, respectively; therefore, the IRO SDT did not revise the VRFs for any of those requirements. The IRO SDT did, however, revise the VSLs for Requirements R2 through R4 in proposed IRO-009-2 to conform to the revisions to the language therein.

For reference purposes, **Exhibit E** includes the detailed analysis of the assignment of VRFs and the VSLs for the proposed Reliability Standards. As reflected therein, the VRFs and VSLs for the proposed Reliability Standard comport with NERC and Commission guidelines.

## **V. EFFECTIVE DATE**

NERC respectfully requests that the Commission accept proposed Reliability Standard IRO-006-EAST-2 as effective on the first day of the second calendar quarter after the date that the standard is approved, and Reliability Standard IRO-009-2 as effective on the first day of the first calendar quarter after the date that the standard is approved.

## VI. CONCLUSION

For the reasons set forth above, NERC respectfully requests that the Commission:

- approve the proposed Reliability Standards and associated elements included in **Exhibit A**, effective as proposed herein;
- approve the Implementation Plans included in **Exhibit B**; and
- approve the retirement of Reliability Standards, effective as proposed herein.

Respectfully submitted,

/s/ Andrew C. Wills

Gerald W. Cauley  
President and Chief Executive Officer  
North American Electric Reliability Corporation  
3353 Peachtree Road, N.E.  
Suite 600, North Tower  
Atlanta, GA 30326  
(404) 446-2560  
(404) 446-2595– facsimile

Charles A. Berardesco  
Senior Vice President and General Counsel  
Holly A. Hawkins  
Associate General Counsel  
Andrew C. Wills  
Associate Counsel  
North American Electric Reliability Corporation  
1325 G Street, N.W., Suite 600  
Washington, D.C. 20005  
(202) 400-3000  
(202) 644-8099– facsimile  
charles.berardesco@nerc.net  
holly.hawkins@nerc.net  
andrew.wills@nerc.net

*Counsel for the North American Electric  
Reliability Corporation*

September 16, 2015

**Exhibit A**

**Proposed Reliability Standards**



**Exhibit A-1**

**Proposed Reliability Standard IRO-006-EAST-2**

## 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

- 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.
- 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

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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."

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 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. |
|--|--|--|--|---|

**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       | November 4, 2010 | Adopted by NERC Board of Trustees |  |
| 1       | April 21, 2011   | FERC approved IRO-006-EAST-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. |

### 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.

**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.

**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.

## A. Introduction

1. **Title:** Transmission Loading Relief Procedure for the Eastern Interconnection
2. **Number:** IRO-006-EAST-12
3. **Purpose:** To ~~provide an~~coordinate action between Reliability Coordinators within the Eastern Interconnection ~~wide when implementing~~ transmission loading relief ~~procedure~~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. **Functional Entities:**
    - 4.1.4.1.1. Reliability Coordinators in the Eastern Interconnection:
  5. ~~Proposed Effective Date:~~ 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.
  5. Effective Date: See the Implementation Plan for IRO-006-EAST-2.

## B. Requirements

### ~~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 T<sub>v</sub>, each~~Measures

- R1. ~~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 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 (with the exception of except 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: <sup>1</sup> [Violation Risk Factor: Medium] [-Time Horizon: Real-time Operations]~~

~~**2.1.** A list of congestion management actions to be implemented, and~~

~~**2.2.** 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>2</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 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~~

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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."

<sup>2</sup> For more information on TLR levels, please see "Implementation Guideline for Reliability Coordinators: Eastern Interconnection TLR Levels Reference Document."

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

~~R4. 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: [*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  $T_v$ , 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).~~

M1. M2. 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 (R2) 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) with a Sink Balancing Authority that after it identified a TLR level and a list of must implement congestion management actions pursuant to take, it 1.) notified all Reliability Coordinators in the Eastern Interconnection of the TLR Level, 2.) communicated TLR procedure shall, within 15 minutes of receiving the request from the list of actions~~ issuing Reliability Coordinator, instruct the Sink Balancing Authority 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 ~~implement the list of congestion management actions, and 3.) requested subject to the Reliability Coordinators identified in Requirement R3 Part 3.2 to implement 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 identified in Requirement R2 Part 2.1 (R3) with the issuing Reliability Coordinator.~~

~~M2. M4.~~ 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.) implementing) instructing the communicated Sink Balancing Authority to implement the congestion management actions requested by the issuing Reliability Coordinator, or 2.) implementing2) 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 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 (R4) in accordance with Requirement R2.~~



## **D.C. 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**

“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 ~~Reliability Coordinator~~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~~For Requirement R1 and Requirement R2, the Reliability Coordinator shall maintain evidence to show compliance with Requirement R1, R2, R3, and R4~~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.

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3. Violation Severity Levels

| Violation Severity Levels |  |  |  |  |
|---------------------------|--|--|--|--|
| R-#                       | Lower VSL  | Moderate VSL   | High VSL   | Severe VSL   |
| <del>R1</del>             |  |  |  | <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 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).</del> |
| <del>R2</del> <u>R1.</u>  | 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 | 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 | 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 | 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.                            | requirement for two clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0. | requirement for three clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.   | 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.  |
|--------------|--|--|--|--|
| R3           | <del>The initiating Reliability Coordinator did not notify one or more Reliability Coordinators in the Eastern Interconnection of the TLR Level (3.1).</del> | N/A  | <del>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.</del><br><br>OR<br><br><del>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.</del> | <del>The initiating Reliability Coordinator requested none of the Reliability Coordinators identified in Requirement R3, Part 3.3 to implement the identified congestion management actions.</del> |
| <u>R4R2.</u> |  |  |  | The responding Reliability Coordinator did not, within 15 minutes of receiving a   |

|  |  |  |  |   |
|--|--|--|--|---|
|  |  |  |  | <p>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 <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.~~

**D. Regional Variances**

None.

**~~E.~~ F. Associated Documents**

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

**G. Revision**

**Version History**

| Version  | Date                    | Action  | <u>Change Tracking</u>  |
|----------|-------------------------|---|---|
| 1        | <u>November 4, 2010</u> | <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><br><u>Adopted by NERC Board of Trustees</u> | <u>New</u>  |
| 1        | April 21, 2011          | FERC <del>Order issued approving</del> <u>approved</u> IRO-006-EAST-1 ( <del>approval effective June 27, 2011</del> )   |   |
| <u>2</u> | <u>August 13, 2015</u>  | <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> |

### **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.

**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.

**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.

**Exhibit A-2**

**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> | 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>  |        |
| <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><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> . ( <del>R2</del> ) <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. (<del>R3</del>)<br/><u>Real-time monitoring or Real-time Assessment.</u></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> <u>exceedance</u> in its Reliability Coordinator Area, and that <del>the</del> <u>IROL exceedance</u> was not <del>resolved</del> <u>mitigated</u> within the IROL’s T <sub>v</sub> . ( <del>R4</del> )  |

**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>:<br/>(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<br>( <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 Plans**

**EXHIBIT B-1**

**Implementation Plan for IRO-006-EAST**



## 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](#).

**EXHIBIT B-2**

**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 C**

**Order No. 672 Criteria**

## **Order No. 672 Criteria**

In Order No. 672, the Commission identified a number of criteria it will use to analyze Reliability Standards proposed for approval to ensure they are just, reasonable, not unduly discriminatory or preferential, and in the public interest.<sup>1</sup> The discussion below identifies these factors and explains how the revisions reflected in proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 (**Exhibits A-1 and A-2**, respectively) have met or exceeded the criteria.

### **1. Proposed Reliability Standards must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve that goal.<sup>2</sup>**

The proposed Reliability Standards are designed to ensure that Reliability Coordinators take certain actions to prevent or manage reliability threats from potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System. Specifically, the purpose of proposed Reliability Standard IRO-006-EAST-2 is to ensure that the actions between Reliability Coordinators in the Eastern Interconnection are coordinated when implementing transmission loading relief procedures (TLR) to prevent or manage potential or actual SOL and IROL. Similarly, proposed Reliability Standard IRO-009-2, which was designed as a nationwide standard, is designed 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 IROLs.

Both proposed Reliability Standards continue to achieve the specific reliability goals mentioned above. The revisions made in the proposed standards improve upon the existing standards by converting each standard into the Results Based Standards, streamlining and

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<sup>1</sup> *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, FERC Stats. & Regs. ¶ 31,204, *order on reh'g*, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

<sup>2</sup> Order No. 672 at PP 321, 324.

clarifying language, and conforming the existing standards to comply with Paragraph 81 principles.

**2. Proposed Reliability Standards must be applicable only to users, owners and operators of the bulk power system, and must be clear and unambiguous as to what is required and who is required to comply.<sup>3</sup>**

As described below, proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 are clear and unambiguous as to who is required to comply what is required.

Both of the revised requirements in Reliability Standard IRO-006-EAST-2 and each of the four revised requirements in Reliability Standard IRO-009-2 clearly articulate the actions that such entities must take to comply, as the standards reflect separate performance elements that are easily recognizable using means defined in the associated measures. Both IRO-006-EAST-2 and IRO-009-2 apply only to Reliability Coordinators, and because IRO-006-EAST-2 is a regional Reliability Standard, it is only applicable to those Reliability Coordinators in the Eastern Interconnection.

**3. A proposed Reliability Standard must include clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation.<sup>4</sup>**

Proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 include clear and understandable consequences and an appropriate range of penalties in accordance with Order No. 672. The Violation Risk Factors (“VRFs”) and Violation Severity Levels (“VSLs”) for the proposed revised Reliability Standards IRO-006-EAST-2 and IRO-009-2 comport with NERC and Commission guidelines related to their assignment. The assignment of the severity level for each VSL is consistent with the corresponding Requirement and will ensure uniformity and consistency in the determination of penalties. The VSLs do not use any ambiguous terminology,

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<sup>3</sup> Order No. 672 at PP 322, 325.

<sup>4</sup> Order No. 672 at P 327.



thereby supporting uniformity and consistency in the determination of similar penalties for similar violations. The assignment of factors for the VRFs is consistent with the Commission approved NERC Criteria for VRFs and will ensure that penalties assessed for violation of requirements is proportionate to the threat to reliability posed by noncompliance.

**4. A proposed Reliability Standard must identify clear and objective criterion or measure for compliance, so that it can be enforced in a consistent and non-preferential manner.<sup>5</sup>**

Proposed Reliability Standard IRO-006-EAST-2 contains two Measures and IRO-009-2 contains four Measures, and each support the related requirements by clearly identifying what is required and how the requirement will be enforced. These measures help ensure that the requirements will be enforced in a clear, consistent, and non-preferential manner and without prejudice to any party.

**5. Proposed Reliability Standards should achieve a reliability goal effectively and efficiently — but do not necessarily have to reflect “best practices” without regard to implementation cost or historical regional infrastructure design.<sup>6</sup>**

Proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 improve the quality, relevance, and clarity of each of the standards so that the reliability goals for each are achieved effectively and efficiently.

**6. Proposed Reliability Standards cannot be “lowest common denominator,” *i.e.*, cannot reflect a compromise that does not adequately protect Bulk-Power System reliability. Proposed Reliability Standards can consider costs to implement for smaller entities, but not at consequences of less than excellence in operating system reliability.<sup>7</sup>**

Proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 do not reflect a “lowest common denominator” approach; rather, the proposed Reliability Standards represent improvements to the existing versions of these standards by introducing granularity and

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<sup>5</sup> Order No. 672 at P 328.

<sup>6</sup> Order No. 672 at P 326.

<sup>7</sup> Order No. 672 at P 327.

simplicity to the language of each requirement. Because the standards are now clearer than the existing versions, the revised standards are more stringent than the currently effective IRO-006-EAST-2 and IRO-009-2.

**7. Proposed Reliability Standards must be designed to apply throughout North America to the maximum extent achievable with a single Reliability Standard while not favoring one geographic area or regional model. It should take into account regional variations in the organization and corporate structures of transmission owners and operators, variations in generation fuel type and ownership patterns, and regional variations in market design if these affect the proposed Reliability Standard.<sup>8</sup>**

The requirements in proposed Reliability Standard IRO-006-EAST-2 are designed to apply to Reliability Coordinators in the Eastern Interconnection. Unlike most NERC standards, this standard deals with requirements on an Interconnection-wide basis, rather than a Regional or continent-wide basis. It is within the scope of the ERO to develop standards that apply only with a specific Interconnection, as it helps to ensure uniformity in inter-regional operations and to take into account geographical idiosyncrasies that affect electrical operations.

On the other hand, the requirements in proposed Reliability Standard IRO-009-2 are designed to work in tandem with the existing IRO standards to prevent issues that adversely impact reliability by ensuring prompt action to prevent or mitigate instances of exceeding IROLs. Reliability Standard IRO-009-2 applies throughout North America to the maximum extent and does not favor one geographic area or regional model. As such, IRO-009-2 has been designed to properly account for variations across all organizations and corporate structures.

**8. Proposed Reliability Standards should cause no undue negative effect on competition or restriction of the grid beyond any restriction necessary for reliability.<sup>9</sup>**

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<sup>8</sup> Order No. 672 at P 331.

<sup>9</sup> Order No. 672 at P 332. As directed by section 215 of the FPA, FERC itself will give special attention to the effect of a proposed Reliability Standard on competition. The ERO should attempt to develop a proposed Reliability Standard that has no undue negative effect on competition. Among other possible considerations, a proposed Reliability Standard should not unreasonably restrict available transmission capability on the Bulk-Power System beyond any restriction necessary for reliability and should not limit use of the Bulk-Power System in an unduly preferential manner. It should not create an undue advantage for one competitor over another.

Proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 will not cause undue negative effect on competition or result in any unnecessary restrictions.

**9. The implementation time for the proposed Reliability Standard is reasonable.<sup>10</sup>**

The proposed effective dates for Reliability Standards IRO-006-EAST-2 and IRO-009-2 are just and reasonable. NERC proposes an effective date for IRO-009-2 on the first day of the first calendar quarter after applicable regulatory approval. NERC proposes an effective date for IRO-006-EAST-2 on the first day of the second calendar quarter after applicable regulatory approval. The proposed implementation periods are designed to allow sufficient time for the applicable entities to make any changes in their internal process necessary to implement the proposed revisions. The proposed Implementation Plans for IRO-006-EAST-2 and IRO-009-2 are attached as **Exhibit B1** and **Exhibit B2**, respectively.

**10. The Reliability Standard was developed in an open and fair manner and in accordance with the Commission-approved Reliability Standard development process.<sup>11</sup>**

The proposed Reliability Standards were developed in accordance with NERC's Commission approved, ANSI-accredited processes for developing and approving Reliability Standards.<sup>12</sup> **Exhibit G** includes a summary of the Reliability Standard development proceedings, and details the processes followed to develop the Reliability Standard. These processes included, among other things, multiple comment period, pre-ballot review periods, and balloting periods. Additionally, all meetings of the standard drafting team were properly noticed and open to the public.

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<sup>10</sup> Order No. 672 at P 333.

<sup>11</sup> Order No. 672 at P 334.

<sup>12</sup> See NERC Rules of Procedure, Section 300 (Reliability Standards Development) and Appendix 3A (Standard Processes Manual).

**11. NERC must explain any balancing of vital public interests in the development of proposed Reliability Standards.<sup>13</sup>**

NERC has identified no competing public interests regarding the request for approval of proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2. No comments were received that indicated the proposed Reliability Standards conflict with other vital public interests.

**12. Proposed Reliability Standards must consider any other appropriate factors.<sup>14</sup>**

No other negative factors relevant to whether proposed Reliability Standards IRO-006-EAST-2 and IRO-009-2 is just and reasonable were identified.

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<sup>13</sup> Order No. 672 at P 335.

<sup>14</sup> Order No. 672 at P 323.

**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><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>  |

## **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 IROs, 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 (IROs).

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 IRO, that can be implemented in time to prevent exceeding the identified IRO, mitigate exceeding that IRO within the IRO's Tv, Operating Processes, Procedures or Plans to prevent an IRO 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 IRO exceedance is mitigated within the IRO's Tv as part of its Real-time monitoring or Real-time Assessment, and Reliability Coordinator operation to the most limiting IRO and Tv in instances where there is a difference in an IRO 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<br>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:<br/>N/A</p>   |
| FERC VRF G2 Discussion | <p>Guideline 2- Consistency within a Reliability Standard:<br/>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> |
|--|--|

| 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:<br/>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> |
|--|--|--|--|



| VRF and VSL Justifications – IRO-009-2, R1  |   |
|---|---|
| Proposed VSL – IRO-009-2, R1  |   |
| FERC VSL G3<br>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<br>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<br>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<br>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<br>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<br>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<br/>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><br/>Clean (31)   Redline to Last Posted (32)   Redline to Last Approved (33)</p> <p align="center"><b>IRO-009</b><br/>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><br/>Clean (37)   Redline to Last Posted (38)</p> <p align="center"><b>IRO-009</b><br/>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><br/>Clean (12)   Redline to Last Approved (13)</p> <p align="center"><b>IRO-009</b><br/>Clean (14)   Redline to Last Approved (15)</p> <p align="center"><b>Implementation Plans</b><br/>IRO-006-EAST (16)<br/>IRO-009 (17)</p> <p align="center"><b>Supporting Materials</b><br/>Unofficial Comment Form (Word) (18)<br/>Mapping Document (19)<br/>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><br/>Draft RSAW</p> <p><b>IRO-009</b><br/>Draft RSAW</p>   | <p>Send RSAWs feedback to:<br/>RSAWfeedback@nerc.net</p>          | <p>06/03/15 – 07/08/15</p> |                               |                                       |
| <p><b>SAR (3)</b><br/><b>Supporting Materials</b></p> <p>Unofficial Comment Form (Word) (4)<br/><b>Proposed Redlines to Standards</b><br/>IRO-006-East (5)<br/>IRO-009 (6)</p> <p><b>Five-Year Review Templates</b><br/>IRO-006-East (7)<br/>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:**

**Name:**

**Title:**

**Organization:**

**Address:**

**Telephone:**

**Email:**

- 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?   | Enter (yes/no)  |
| 1. A reliability standard shall not give any market participant an unfair competitive advantage.   | 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.**~~ **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.**~~ **2.1.1.1.** A list of congestion management actions to be implemented, and

~~**2.2.1.2.**~~ **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~~

---

<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>   |



| 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><br><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):

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:

#### 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.

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<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

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.

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### *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.

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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 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.

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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

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**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

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**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

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**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

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

Selected Answer:

**Answer Comment:**

**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:**

**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

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**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

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**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

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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:**

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

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**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

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**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

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**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

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

**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

---

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

Selected Answer:

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

**Response:**

**Likes:** 0

**Dislikes:** 0

---

**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

---

**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. |
|--|--|--|--|---|

**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> |
|--|--|

| 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)~~
-

**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> |
|-------------------|---|--|--|---|

| 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) ~~it~~ To mitigate the magnitude and duration of ~~exceeding~~ 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><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>R23</del></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_</del><u>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)</u></p> |

Standard IRO-009-24 — 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 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><u>mitigated within the IROL's Tv.</u></p> |
|-------------------|--|--|---|---|

| 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 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 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 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.

---

<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<br>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:<br>N/A  |
| FERC VRF G2 Discussion                     | Guideline 2- Consistency within a Reliability Standard:<br>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> |
|--|--|

| 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:<br/>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> |
|--|--|--|--|

| VRF and VSL Justifications – IRO-009-2, R1  |   |
|---|---|
| Proposed VSL – IRO-009-2, R1  |   |
| FERC VSL G3<br>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<br>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<br>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<br>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<br>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<br>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<br/>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.

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

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](#).

#### 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

#### 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 \(/SurveyResults/Index/16\)](/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:<br>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:<br>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 |

Showing 1 to 225 of 225 entries

Previous

1

Next



# NERC Balloting Tool (/)

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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:<br>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

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    |                  | 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 -<br>Southern Company<br>Generation | William D. Shultz  |              | Affirmative | N/A |
| 5 | Tacoma Public<br>Utilities (Tacoma,<br>WA)           | Chris Mattson      |              | Abstain     | N/A |
| 5 | Tallahassee Electric<br>(City of Tallahassee,<br>FL) | Karen Webb         |              | Affirmative | N/A |
| 5 | Tennessee Valley<br>Authority                        | Brandy Spraker     |              | Abstain     | N/A |
| 5 | WEC Energy Group,<br>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<br>Services                          | Robert Quinlivan   |              | None        | N/A |
| 6 | Associated Electric<br>Cooperative, Inc.             | Brian Ackermann    |              | Affirmative | N/A |
| 6 | Austin Energy  | Andrew Gallo       |              | Abstain     | N/A |
| 6 | Bonneville Power<br>Administration                   | Brenda Anderson    |              | Abstain     | N/A |
| 6 | Cleco Corporation                                    | Robert Hirchak     | Louis Guidry | Abstain     | N/A |
| 6 | Colorado Springs<br>Utilities                        | Shannon Fair       |              | None        | N/A |
| 6 | Con Ed -<br>Consolidated Edison<br>Co. of New York   | Robert Winston     |              | Affirmative | N/A |
| 6 | FirstEnergy -<br>FirstEnergy Solutions               | Ann Ivanc          |              | Affirmative | N/A |
| 6 | Florida Municipal<br>Power Agency                    | Richard Montgomery |              | Affirmative | N/A |
| 6 | Florida Municipal<br>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 |

Previous

1

Next

Showing 1 to 195 of 195 entries

# NERC Balloting Tool (/)

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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:<br>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<br>(City of Tallahassee,<br>FL) | Scott Langston                   |  | Affirmative | N/A                   |
| 1 | Tennessee Valley<br>Authority                        | Howell Scott                     |  | Abstain     | N/A                   |
| 1 | Tri-State G and T<br>Association, Inc.               | Tracy Sliman                     |  | Abstain     | N/A                   |
| 1 | United Illuminating<br>Co.                           | Jonathan Appelbaum               |  | Negative    | Comments<br>Submitted |
| 1 | Westar Energy  | Kevin Giles                      |  | Abstain     | N/A                   |
| 1 | Western Area Power<br>Administration                 | Steve Johnson                    |  | None        | N/A                   |
| 2 | BC Hydro and Power<br>Authority                      | Venkataramakrishnan<br>Vinnakota |  | Abstain     | N/A                   |
| 2 | Electric Reliability<br>Council of Texas,<br>Inc.    | christina bigelow                |  | Affirmative | N/A                   |
| 2 | Herb Schrayshuen                                     | Herb Schrayshuen                 |  | Affirmative | N/A                   |
| 2 | Independent<br>Electricity System<br>Operator        | Leonard Kula                     |  | Affirmative | N/A                   |
| 2 | New York<br>Independent System<br>Operator           | Gregory Campoli                  |  | Abstain     | N/A                   |
| 2 | PJM Interconnection,<br>L.L.C.                       | Mark Holman                      |  | Affirmative | N/A                   |
| 2 | Southwest Power<br>Pool, Inc. (RTO)                  | Charles Yeung                    |  | Affirmative | N/A                   |
| 3 | Ameren - Ameren<br>Services                          | David Jendras                    |  | Abstain     | N/A                   |
| 3 | Associated Electric<br>Cooperative, Inc.             | Todd Bennett                     |  | Affirmative | N/A                   |
| 3 | Austin Energy  | Lisa Martin                      |  | Affirmative | N/A                   |
| 3 | Avista - Avista<br>Corporation                       | Scott Kinney                     |  | None        | N/A                   |
| 3 | Beaches Energy<br>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 Rzad        |               | 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

Previous  Next

# 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)

| <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**

| <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: 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-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: 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**

| <b>Voter</b> | <b>Segment</b> |
|--------------|----------------|
|--------------|----------------|

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-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 |
|-------------------|--------|--------|----------|
|-------------------|--------|--------|----------|

|                 |                                |     |       |
|-----------------|--------------------------------|-----|-------|
| 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 |
|----------|------------------------|-----|---|

**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**

**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:**

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 |
|-------------------|--------|--------|----------|
|-------------------|--------|--------|----------|

|               |  |      |   |
|---------------|--|------|---|
| 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          |
| <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> |
|--------------------------|---------------|---------------|-----------------|
|--------------------------|---------------|---------------|-----------------|

|                   |   |      |    |
|-------------------|---|------|----|
| 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

| 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**

**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 |
|------------|--|------|---|

**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

| 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

**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

| 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**

**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 |
|------------|--|------|---|

**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

| 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**

**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 |
|--------------|-----------------------------|-----|-------|

**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 |
|----------|------------------------|-----|---|

**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 |
|-------------------|--------|--------|----------|
|-------------------|--------|--------|----------|

|                   |        |      |   |
|-------------------|--------|------|---|
| 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**

| <b>Voter</b> | <b>Segment</b> |
|--------------|----------------|
|--------------|----------------|

|                 |   |
|-----------------|---|
| Shannon Mickens | 2 |
|-----------------|---|

| <b>Entity</b> | <b>Region(s)</b> |
|---------------|------------------|
|---------------|------------------|

|                                  |     |
|----------------------------------|-----|
| 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

---

**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-Qu?bec TransEnergie - 1 -**

**Selected Answer:**

**Answer**

**Comment:** N/A

**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:**

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. |
|--|--|--|--|---|

**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.

| 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 ~~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

<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.

#### 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. |
|--|--|--|--|---|

**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> |
|--|---|

| 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            |
| 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.

## 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> |
|-------------------|---|--|--|---|

| 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**

| <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 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.

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|---|---------------------------|
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| 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
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- 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>R23</del></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_</del><u>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)</u></p> |

Standard IRO-009-24 — 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> |
|-------------------|--|--|--|---|

| 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 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~~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.

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)

# NERC Balloting Tool (/)

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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:<br>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

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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     |                  | 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 -<br>Southern California<br>Edison Company | Michael McSpadden    |              | Affirmative | N/A |
| 5 | Exelon  | Vince Catania        |              | Affirmative | N/A |
| 5 | FirstEnergy -<br>FirstEnergy Solutions                          | Robert Loy           |              | Affirmative | N/A |
| 5 | Florida Municipal<br>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<br>Authority                               | Dixie Wells          |              | Abstain     | N/A |
| 5 | Manitoba Hydro  | Yuguang Xiao         |              | Affirmative | N/A |
| 5 | Massachusetts<br>Municipal Wholesale<br>Electric Company        | David Gordon         |              | Abstain     | N/A |
| 5 | MEAG Power  | Steven Grego         | Scott Miller | Affirmative | N/A |
| 5 | Nebraska Public<br>Power District                               | Don Schmit           |              | Affirmative | N/A |
| 5 | New York Power<br>Authority                                     | Wayne Sipperly       |              | Affirmative | N/A |
| 5 | NextEra Energy  | Allen Schriver       |              | None        | N/A |
| 5 | NRG - NRG Energy,<br>Inc.                                       | Alan Johnson         |              | None        | N/A |
| 5 | OGE Energy -<br>Oklahoma Gas and<br>Electric Co.                | Leo Staples          |              | None        | N/A |
| 5 | Oglethorpe Power<br>Corporation                                 | Bernard Johnson      |              | Negative    | N/A |
| 5 | Omaha Public Power<br>District                                  | Mahmood Safi         |              | Affirmative | N/A |
| 5 | Platte River Power<br>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

Previous

1

Next

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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:<br>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 |

Previous

1

Next

Showing 1 to 225 of 225 entries

**EXHIBIT G**

**Standard Drafting Team Roster**

## Team Roster

Project 2015-06

Interconnected Reliability Operations and Coordination

| Role       | Participant        | Contact Information  |
|------------|--------------------|--|
| Chair      | Stephen Solis      | ERCOT<br>2705 West Lake Drive,<br>Taylor, Texas 76574<br>512-248-6772                                  |
| Vice-chair | Donald Reichenbach | Duke Energy<br>526 South Church Street<br>Charlotte, NC 28202<br>704-382-3146                          |
| Member     | Don Badley         | Northwest Power Pool<br>7505 NE Ambassador Place, Suite R<br>Portland, OR 97220<br>503-819-4517        |
| Member     | Gregory Campoli    | NYISO<br>10 Krey Blvd.<br>Rensselaer, NY 12144<br>518-356-6159   |
| Member     | Anthony Jankowski  | We Energies<br>W237N1500 Busse Rd.<br>Waukesha, WI 53188<br>262-544-7117                               |
| Member     | Tony Rowan         | Mid-Continent Independent System Operator<br>2985 Ames Crossing Road<br>Eagan MN 55121<br>651-632-8403 |
| Member     | Brian Strickland   | Southwest Power Pool, Inc.<br>201 Worthen Drive<br>Little Rock, AR 72223<br>501-688-8308               |

|            |   |  |
|------------|---|--|
| Member     | Bob Tallman                                     | LG&E and KU Energy<br>220 West Main Street<br>Louisville, KY 40202<br>502-627-3414   |
| NERC staff | Katherine Street – Standard Developer           | North American Electric Reliability Corporation<br>3353 Peachtree Road NE<br>Suite 600, North Tower<br>Atlanta, GA 30326<br>404-446-9702 |
| NERC staff | Laura Anderson – Standard Developer             | North American Electric Reliability Corporation<br>3353 Peachtree Road NE<br>Suite 600, North Tower<br>Atlanta, GA 30326<br>404-446-9671 |
| NERC staff | Sean Cavote – Manager of Standards Development  | North American Electric Reliability Corporation<br>3353 Peachtree Road NE<br>Suite 600, North Tower<br>Atlanta, GA 30326<br>404-446-9697 |
| NERC staff | Stephen Crutchfield – Senior Standard Developer | North American Electric Reliability Corporation<br>3353 Peachtree Road NE<br>Suite 600, North Tower<br>Atlanta, GA 30326<br>404-446-9697 |
| NERC staff | Andrew Wills – NERC Legal                       | North American Electric Reliability Corporation<br>1325 G Street NW, Suite 600<br>Washington, DC 20005<br>202-400-3015                   |
| FERC staff | Susan Morris                                    | Office of Electric Reliability<br>Federal Energy Regulatory Commission<br>202-502-6803   |
| FERC staff | Nick Henery                                     | Office of Electric Reliability<br>Federal Energy Regulatory Commission<br>202-502-8636   |
| FERC staff | Ena Agbedia                                     | Office of Electric Reliability<br>Federal Energy Regulatory Commission   |
| PMOS Rep   | Charles Yeung                                   | SPP<br>832-724-6142  |