

**Compliance Questionnaire and**

**Reliability Standard Audit Worksheet**

**IRO-005-3.1a — Reliability Coordination ‑ Current Day Operations**

**Registered Entity:** *(Must be completed by the Compliance Enforcement Authority)*

**NCR Number:** *(Must be completed by the Compliance Enforcement Authority)*

**Applicable Function(s): RC, BA, TOP, TSP, GOP, LSE, PSE**

**Auditors:**

**Disclaimer**

NERC developed this Reliability Standard Audit Worksheet (RSAW) language in order to facilitate NERC’s and the Regional Entities’ assessment of a registered entity’s compliance with this Reliability Standard. The NERC RSAW language is written to specific versions of each NERC Reliability Standard. Entities using this RSAW should choose the version of the RSAW applicable to the Reliability Standard being assessed. While the information included in this RSAW provides some of the methodology that NERC has elected to use to assess compliance with the requirements of the Reliability Standard, this document should not be treated as a substitute for the Reliability Standard or viewed as additional Reliability Standard requirements. In all cases, the Regional Entity should rely on the language contained in the Reliability Standard itself, and not on the language contained in this RSAW, to determine compliance with the Reliability Standard. NERC’s Reliability Standards can be found on NERC’s website at <http://www.nerc.com/page.php?cid=2|20>. Additionally, NERC Reliability Standards are updated frequently, and this RSAW may not necessarily be updated with the same frequency. Therefore, it is imperative that entities treat this RSAW as a reference document only, and not as a substitute or replacement for the Reliability Standard. It is the responsibility of the registered entity to verify its compliance with the latest approved version of the Reliability Standards, by the applicable governmental authority, relevant to its registration status.

The NERC RSAW language contained within this document provides a non‑exclusive list, for informational purposes only, of examples of the types of evidence a registered entity may produce or may be asked to produce to demonstrate compliance with the Reliability Standard. A registered entity’s adherence to the examples contained within this RSAW does not necessarily constitute compliance with the applicable Reliability Standard, and NERC and the Regional Entity using this RSAW reserves the right to request additional evidence from the registered entity that is not included in this RSAW. Additionally, this RSAW includes excerpts from FERC Orders and other regulatory references. The FERC Order cites are provided for ease of reference only, and this document does not necessarily include all applicable Order provisions. In the event of a discrepancy between FERC Orders, and the language included in this document, FERC Orders shall prevail.

# Subject Matter Experts

Identify your company’s subject matter expert(s) responsible for this Reliability Standard. Include the person's title, organization and the requirement(s) for which they are responsible. Insert additional lines if necessary.

**Response: *(Registered Entity Response Required)***

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Reliability Standard Language

**IRO‑005‑3.1a ‑ Reliability Coordination ‑ Current Day Operations**

**Purpose:**

The Reliability Coordinator must be continuously aware of conditions within its Reliability Coordinator Area and include this information in its reliability assessments. The Reliability Coordinator must monitor Bulk Electric System parameters that may have significant impacts upon the Reliability Coordinator Area and neighboring Reliability Coordinator Areas.

**Applicability:**

Reliability Coordinator

Balancing Authority

Transmission Operator

Transmission Service Provider

Generator Operator

Load Serving Entity

Purchasing Selling Entity

**NERC BOT Approval Date:** October 17, 2008

**FERC Approval Date:** September 13, 2012

**Reliability Standard Enforcement Date in the United States**: 9/13/2012

**Requirements:**

**R1**. Each **Reliability Coordinator** shall monitor its Reliability Coordinator Area parameters, including but not limited to the following:

**R1.1.** Current status of Bulk Electric System elements (transmission or generation including

critical auxiliaries such as Automatic Voltage Regulators and Special Protection Systems) and system loading.

**R1.2.** Current pre-contingency element conditions (voltage, thermal, or stability), including any applicable mitigation plans to alleviate SOL or IROL violations, including the plan’s viability and scope.

**R1.3.** Current post-contingency element conditions (voltage, thermal, or stability), including any applicable mitigation plans to alleviate SOL or IROL violations, including the plan’s viability and scope.

**R1.4.** System real and reactive reserves (actual versus required).

**R1.5.** Capacity and energy adequacy conditions.

**R1.6.** Current ACE for all its Balancing Authorities.

**R1.7.** Current local or Transmission Loading Relief procedures in effect.

**R1.8.** Planned generation dispatches.

**R1.9.** Planned transmission or generation outages.

**R1.10.** Contingency events.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R1 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO‑005-3.1a R1**

\_\_\_Determine if the Reliability Coordinator monitors the following parameters within its

Reliability Coordinator Area including but not limited to the following:

\_\_\_ Current status of Bulk Electric System elements (transmission or generation including critical auxiliaries such as Automatic Voltage Regulators and Special Protection Systems) and system loading.

\_\_\_ Current pre‑contingency element conditions (voltage, thermal, or stability), including any applicable mitigation plans to alleviate SOL or IROL violations, including the plan’s viability and scope.

\_\_\_Current post‑contingency element conditions (voltage, thermal, or stability), including any applicable mitigation plans to alleviate SOL or IROL violations, including the plan’s viability and scope.

\_\_\_System real and reactive reserves (actual versus required).

\_\_\_Capacity and energy adequacy conditions.

\_\_\_Current ACE for all its Balancing Authorities.

\_\_\_Current local or Transmission Loading Relief procedures in effect.

\_\_\_Planned generation dispatches.

\_\_\_Planned transmission or generation outages.

\_\_\_Contingency events.

**Detailed notes:**

**R2**. Each **Reliability Coordinator** shall monitor its Balancing Authorities’ parameters to ensure that the required amount of operating reserves is provided and available as required to meet the Control Performance Standard and Disturbance Control Standard requirements. If necessary, the **Reliability Coordinator** shall direct the Balancing Authorities in the Reliability Coordinator Area to arrange for assistance from neighboring Balancing Authorities. The **Reliability Coordinator** shall issue Energy Emergency Alerts as needed and at the request of its Balancing Authorities and Load-Serving Entities.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R2 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO‑005-3.1a R2**

\_\_\_Determine if the Reliability Coordinator monitored its Balancing Authorities’ parameters to ensure the required amount of operating reserves was provided and available.

\_\_\_ Determine if the Reliability Coordinator directed the Balancing Authorities in the Reliability Coordinator Area to arrange for assistance from neighboring Balancing Authorities if necessary.

\_\_\_Determine if the Reliability Coordinator issued Energy Emergency Alerts as needed, and at the request of its Balancing Authorities and Load‑Serving Entities.

**Detailed notes:**

**R3.** Each **Reliability Coordinator** shall ensure its Transmission Operators and Balancing Authorities are aware of Geo-Magnetic Disturbance (GMD) forecast information and assist as needed in the development of any required response plans.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R3 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**Compliance Assessment Approach Specific to IRO‑005-3.1a R3**

\_\_\_ Determine if the Reliability Coordinator confirmed its Transmission Operators and Balancing Authorities were aware of Geo‑Magnetic Disturbance (GMD) forecast information.

\_\_\_ Determine if the Reliability Coordinator assisted, as needed, in the development of any required response plans.

**Detailed notes:**

**R4.** The **Reliability Coordinator** shall disseminate information within its Reliability Coordinator Area, as required.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R4 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO‑005-3.1a R4**

\_\_\_Determine if the Reliability Coordinator disseminated information within its Reliability Coordinator Area as required.

**Detailed notes:**

**R5.** Each **Reliability Coordinator** shall monitor system frequency and its Balancing Authorities’ performance and direct any necessary rebalancing to return to CPS and DCS compliance. The **Transmission Operators** and **Balancing Authorities** shall utilize all resources, including firm load shedding, as directed by its Reliability Coordinator to relieve the emergent condition.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R5 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO‑005-3.1a R5**

\_\_\_Determine if the Reliability Coordinator monitored system frequency and its Balancing Authorities’ performance.

\_\_\_ Determine if the Reliability Coordinator directed any necessary rebalancing to return to CPS and DCS compliance.

\_\_\_Determine if the Transmission Operators and Balancing Authorities utilized all resources, including firm load shedding, as directed by its Reliability Coordinator to relieve emergent conditions.

**Detailed notes:**

**R6.** The **Reliability Coordinator** shall coordinate with Transmission Operators, Balancing Authorities, and Generator Operators as needed to develop and implement action plans to mitigate potential or actual SOL, CPS, or DCS violations. The **Reliability Coordinator** shall coordinate pending generation and transmission maintenance outages with Transmission Operators, Balancing Authorities, and Generator Operators as needed in both the real time and next-day reliability analysis timeframes.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R6 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO‑005-3.1a R6**

\_\_\_Determine if the Reliability Coordinator coordinated with Transmission Operators, Balancing Authorities, and Generator Operators as needed to develop and implement action plans to mitigate potential or actual SOL, CPS, or DCS violations.

\_\_\_ Determine if the Reliability Coordinator coordinated pending generation and transmission maintenance outages with Transmission Operators, Balancing Authorities, and Generator Operators as needed in both the real time and next‑day reliability analysis timeframes.

**Detailed notes:**

**R7.** As necessary, the **Reliability Coordinator** shall assist the Balancing Authorities in its Reliability Coordinator Area in arranging for assistance from neighboring Reliability Coordinator Areas or Balancing Authorities.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R7 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO‑005-3.1a R7**

\_\_\_Determine if the Reliability Coordinator assisted the Balancing Authorities in its Reliability Coordinator Area in arranging for assistance from neighboring Reliability Coordinator Areas or Balancing Authorities.

**Detailed notes:**

**R8.** The **Reliability Coordinator** shall identify sources of large Area Control Errors that may be contributing to Frequency Error, Time Error, or Inadvertent Interchange and shall discuss corrective actions with the appropriate Balancing Authority. The **Reliability Coordinator** shall direct its Balancing Authority to comply with CPS and DCS.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R8 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO‑005-3.1a R8**

\_\_\_Determine if the Reliability Coordinator identified sources of large Area Control Errors that may be contributing to Frequency Error, Time Error, or Inadvertent Interchange.

\_\_\_ Determine if the Reliability Coordinator discussed corrective actions with the appropriate Balancing Authority.

\_\_\_ Determine if the Reliability Coordinator directed its Balancing Authorities to comply with CPS and DCS.

**Detailed notes:**

**R9.** Whenever a Special Protection System that may have an inter-Balancing Authority, or inter- Transmission Operator impact (e.g., could potentially affect transmission flows resulting in a SOL or IROL violation) is armed, the **Reliability Coordinators** shall be aware of the impact of the operation of that Special Protection System on inter-area flows. The Transmission Operator shall immediately inform the Reliability Coordinator of the status of the Special Protection System including any degradation or potential failure to operate as expected.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R9 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO‑005-3.1a R9**

\_\_\_Determine if there is a Special Protection System that may have an inter‑Balancing Authority, or inter‑Transmission Operator impact.

\_\_\_ Determine if the Reliability Coordinator is aware of the status of the Special Protection System.

\_\_\_ Determine if the Reliability Coordinator is aware of the impact of the operation of the Special Protection System on inter‑area flows.

\_\_\_ Determine if the Transmission Operator immediately informed the Reliability Coordinator of the status of the Special Protection System, including any degradation or potential failure to operate as expected.

**Detailed notes:**

**R10.**

In instances where there is a difference in derived limits, the Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities shall always operate the Bulk Electric System to the most limiting parameter.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

**Question**: Have you had any instances in which there was a difference in derived limits during the audit period? How was this instance addressed?

**Entity** **Response: *(Registered Entity Response Required)***

R10 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO‑005-3.1a R10**

\_\_\_Determine if the Reliability Coordinator and its Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load‑Serving Entities, and Purchasing‑Selling Entities always operate the Bulk Electric System to the most limiting parameter in instances where there is a difference in derived limits.

**Detailed notes:**

**R11**.

The Transmission Service Provider shall respect SOLs and IROLs in accordance with filed tariffs and regional Total Transfer Calculation and Available Transfer Calculation processes.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R11 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO-005-3.1a R11**

\_\_\_ Determine if the Transmission Service Providers respected these SOLs or IROLs in accordance with filed tariffs and regional Total Transfer Calculation and Available Transfer Calculation processes.

**Detailed notes:**

**R12.** Each **Reliability Coordinator** who foresees a transmission problem (such as an SOL or IROL violation, loss of reactive reserves, etc.) within its Reliability Coordinator Area shall issue an alert to all impacted Transmission Operators and Balancing Authorities in its Reliability Coordinator Area without delay. The receiving **Reliability Coordinator** shall disseminate this information to its impacted Transmission Operators and Balancing Authorities. The **Reliability Coordinator** shall notify all impacted Transmission Operators, Balancing Authorities, when the transmission problem has been mitigated.

**Describe, in narrative form, how you meet compliance with this requirement: *(Registered Entity Response Required)***

R12 Supporting Evidence and Documentation

**Response: *(Registered Entity Response Required)***

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**This section must be completed by the Compliance Enforcement Authority**

**Compliance Assessment Approach Specific to IRO‑005-3.1a R12**

\_\_\_Determine if the Reliability Coordinator foresaw a transmission problem within its Reliability Coordinator Area.

If yes to the above:

\_\_\_Determine if the Reliability Coordinator issued an alert to all impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area without delay.

\_\_\_Determine if the receiving Reliability Coordinator disseminated this information to its impacted Transmission Operators and Balancing Authorities.

\_\_\_Determine if the Reliability Coordinator notified all impacted Transmission Operators, Balancing Authorities, when the transmission problem had been mitigated.

**Detailed notes:**

# Supplemental Information

As the Reliability Coordinator, describe the process used to monitor and communicate the real time conditions of your operating area that may have significant impacts upon your area and neighboring Reliability Coordinator areas.

**Entity Response: *(Registered Entity Response Required)***

**Other ‑** The list of questions above is not all inclusive of evidence required to show compliance with the Reliability Standard. Provide additional information here**, as necessary that** demonstrates compliance with this Reliability Standard.

**Entity** **Response: *(Registered Entity Response)***

# Compliance Findings Summary (to be filled out by auditor)

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**Excerpts From FERC Orders -- For Reference Purposes Only**

**Updated Through April 15, 2013**

**IRO-005-3.1a**

**Order No. 693**

P 888. The Interconnection Reliability Operations and Coordination (IRO) group of Reliability Standards detail the responsibilities and authorities of a reliability coordinator. The IRO Reliability Standards establish requirements for data, tools and wide-area view, all of which are intended to facilitate a reliability coordinator’s ability to perform its responsibilities and ensure the reliable operation of the interconnected grid.

P 936. IRO-005-1 ensures energy balance and transmission reliability for the current day by identifying tasks that reliability coordinators must perform throughout the day.

P 945. The Commission approves proposed Reliability Standard IRO-005-1 as mandatory and enforceable….

P 946. The Commission clarifies the intent of and need for the proposed survey. We reiterate that the intent is to learn about the operating experiences and practices of operating entities; specifically, how they operate their systems to respect IROLs in the normal system conditions, i.e. prior to a contingency. The survey results will facilitate future development and modifications of IROL-related Reliability Standards to better clarify and eliminate potential multiple interpretations of respecting IROLs that may exist in the proposed Reliability Standards. In addition, the survey will identify the reliability risks and the frequency and number of operating practices involving drifting in and out of IROL. The survey results will also provide guidance on the frequency, duration and magnitude of IROL violations, their causes and whether these IROL violations occur during normal or contingency conditions.

P 947…we note that the proposed Reliability Standards only require reporting on those violations that have exceeded IROLs for longer than 30 minutes. The current reporting requirements and results will not provide an adequate assessment of the existing operating practices regarding IROLs and the reliability risks and the extent of drifting in and out of IROLs.

P 948. … the Commission believes that operating the system within IROL under normal system condition and exceeding IROL only after a contingency and subsequently returning the system to a secure condition as soon as possible, but no longer than 30 minutes, may be appropriate. This mode of operation will minimize the system risk of being one contingency away from potential cascading failures.

P 949. … Requirement R14 only requires a transmission service provider to use the SOLs and IROLs provided by the reliability coordinator in its tariff, it does not require any action in the operating time frame.

P 950. … The appropriate control actions to respect IROLs and SOLs are the responsibilities of a reliability coordinator and transmission operator. If load shedding is required, it is the responsibility of a reliability coordinator or a transmission operator to direct the appropriate entities including LSEs to carry it out….

P 951. Accordingly, the Commission approves Reliability Standard IRO-005-1 as mandatory and enforceable….

**Order No. 748, 18 CFR Part 40 Mandatory Reliability Standards for Interconnection Reliability Operating Limits, 134 FERC ¶ 61,213 (2011) (March 17, 2011)**

1. Under section 215 of the Federal Power Act (FPA), n1 the Federal Energy Regulatory Commission (Commission) approves three new Interconnection Reliability Operations and Coordination (IRO) Reliability Standards and seven revised Reliability Standards related to Emergency Preparedness and Operations (EOP), IRO, and Transmission Operations (TOP). The proposed Reliability Standards were submitted to the Commission for approval by the North American Electric Reliability Corporation (NERC), which the Commission has certified as the Electric Reliability Organization (ERO) responsible for developing and enforcing mandatory Reliability Standards. n2 These Reliability Standards were designed to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring that the reliability coordinator has the data necessary to assess its reliability coordinator area during the operations horizon [\*\*5] and that it takes prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROL). n3 The Commission also approves the addition of two new terms to the NERC Glossary of Terms (NERC Glossary). In addition, the Commission approves NERC's proposed revisions to Reliability Standards EOP-001-1, IRO-002-2, IRO-004-2, IRO-005-3, TOP-003-1, TOP-005-2, and TOP-006-2, which remove requirements for the reliability coordinator to monitor and analyze system operating limits (SOL) n4 other than IROLs.

5. With respect to IRO-001-1, the Commission directed the ERO to develop modifications to eliminate the regional reliability organization as an applicable entity. n6 The Commission also directed the ERO to modify IRO-002-1 to require a minimum set of capabilities that must be made available to the reliability coordinator to ensure that a reliability coordinator has the capabilities it needs to perform its functions. n7 With respect to IRO-003-2, the Commission directed the ERO to develop a modification to create criteria to define the term "critical facilities" in a reliability coordinator's area and its adjacent systems. n8 The Commission also directed the ERO to modify IRO-004-1 to require the next-day analysis to identify control actions that can be implemented and effective within 30 minutes after a contingency. In addition, the Commission directed the ERO to consider adding Measures and Levels of Non-Compliance to Reliability Standards IRO-004-1 and IRO-005-1 that are commensurate with the magnitude, duration, frequency and causes of the violations and whether these occur during normal or contingency conditions. n9

7. On December 31, 2009, NERC submitted a petition to the Commission (NERC Petition) n13 seeking approval of proposed Reliability Standards IRO-008-1, IRO-009-1, and IRO-010-1a. Under these Reliability Standards, reliability coordinators must analyze and monitor IROLs within their Wide-Area n14 to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection. These Reliability Standards do not require the reliability coordinator to analyze and monitor SOLs other than IROLs or to take preventive action to avoid or mitigate SOL violations within their reliability coordinator area. In developing the proposed IRO Reliability Standards, NERC determined that it was necessary to retire or modify certain requirements from several existing Reliability Standards. Therefore, NERC proposed revisions to Reliability Standards EOP-001-1, n15 IRO-002-2, IRO-004-2, IRO-005-3, TOP-003-1, TOP-005-2, and TOP-006-2, which remove requirements for the reliability coordinator to monitor and analyze SOLs other than IROLs. NERC also requests approval of new definitions "Operational Planning Analysis" and "Real-time Assessment."

21. The Commission hereby adopts its NOPR proposals and approves new Reliability Standards IRO-008-1, IRO-009-1, and IRO-010-1a; revised Reliability Standards EOP-001-1, IRO-002-2, IRO-004-2, IRO-005-3, TOP-003-1, TOP-005-2, and TOP-006-2; and the two new NERC Glossary terms: "Operational Planning Analysis" and "Real-time Assessment." In approving these Reliability Standards, the Commission concludes that they are just, reasonable, not unduly discriminatory or preferential, and in the public interest. These Reliability Standards serve an important reliability purpose in seeking to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring that the reliability coordinator has the data necessary to assess its reliability coordinator area during the operations horizon and that it takes prompt action to prevent or mitigate instances of exceeding IROLs. Moreover, they clearly identify the entities to which they apply and contain clear and enforceable requirements. Commenters addressed many of the Commission concerns discussed in the NOPR and in some areas the ERO has indicated that it is continuing to study some issues related to the Commission concerns. The Commission encourages the ERO, applying its technical expertise, to continue such reviews and make any necessary changes to applicable Reliability Standards.

70. Separately from NERC's Petition here, on March 5, 2010, NERC submitted the first of two VSL compliance filings (Filing 1) to the Commission's VSL Orders, n40 which contained the VSL assignments for the original set of 83 Reliability Standards approved by the Commission and NUC-001-2. In addition, NERC requested an extension for filing the remaining VSLs until the 3rd quarter of 2010. On July 6, 2010, the Commission issued a Notice of Extension of Time up to and including December 1, 2010, for Filing 2. n41 On December 1, 2010, NERC submitted a compliance filing to the Commission in Docket No. RR08-04-006 (Filing 2). In Filing 2, NERC submitted VSLs both for Reliability Standards that are pending at the Commission and Reliability Standards previously approved by the Commission. Filing 2 includes VSLs to supersede those in NERC's Petition in Docket No. RM10-15-000 for EOP-001-1, IRO-002-2, IRO-004-2, IRO-005-3, IRO-008-1, IRO-009-1, IRO-010-1, IRO-010-1a, TOP-003-1, TOP-005-2, and TOP-006-2. n42

74. The Commission approves new Reliability Standards IRO-008-1, IRO-009-1, and IRO-010-1a; revised Reliability Standards EOP-001-1, IRO-002-2, IRO-004-2, IRO-005-3, TOP-003-1, TOP-005-2, and TOP-006-2; and the two new NERC Glossary terms: "Operational Planning Analysis" and "Real-time Assessment." The three new Reliability Standards (IRO-008-1, IRO-009-1 and IRO-010-1a, governing reliability coordinator analyses, operational actions and data collection) replace parts of the currently-effective Reliability Standards EOP-001-0, IRO-002-1, IRO-004-1, IRO-005-2, TOP-003-0, TOP-005-1 and TOP-006-1 approved by the Commission in Order No. 693.

75. Thus, this final rule does not impose entirely new burdens on the affected entities. With the exception of the addition of Interchange Authority as an applicable entity in IRO-010-1a, the currently-effective standards EOP-001-0, IRO-002-1, IRO-004-1, IRO-005-2, TOP-003-0, TOP-005-1 and TOP-006-1 require actions by the same applicable group of entities. IRO-010-1a clarifies that balancing authorities, generator owners, generator operators, interchange authorities, load-serving entities, reliability coordinators, transmission operators, and transmission owners shall provide data and information, as specified, to the reliability coordinator(s) with which it has a reliability relationship. n45 The requirements of IRO-008-1 and IRO-009-1 provide clarification from existing requirements, dictating the analysis and operational roles of the reliability coordinator.

**Order No. 750, 18 CFR Part 40 Electric Reliability Organization Interpretations of Interconnection Reliability Operations and Coordination, Transmission Operations Reliability Standards, 135 FERC ¶ 61,041 (2011) (April 21, 2011)**

1. Pursuant to section 215 of the Federal Power Act, the Federal Energy Regulatory Commission hereby approves the North American Electric Reliability Corporation's (NERC) interpretation of the Commission-approved Reliability Standards, IRO-005-1, Reliability Coordination -- Current-Day Operations, and TOP-005-1, Operational Reliability Information. Specifically, the interpretation finds that a transmission owner must report a Special Protection System that is operating with only one communication channel in service to the reliability coordinator and neighboring systems upon request, or when the loss of the communication channel will result in the failure of the Special Protection System to operate as designed. In the Final Rule, the Commission declines to adopt the proposal from the Notice of Proposed Rulemaking (NOPR) to direct the Electric Reliability Organization (ERO) to develop modifications to the Reliability Standards to require additional reporting and instead approves the interpretation as submitted. n1

5. In this proceeding, the Commission addresses NERC's interpretation of the IRO-005-1 and TOP-005-1 Reliability Standards, as previously discussed in the NOPR. In Order No. 693, the Commission approved prior versions of the IRO-005-1 and TOP-005-1, with modifications. n8 The Commission directed NERC to modify TOP-005-1 to specify the operational status of Special Protection Systems and power system stabilizers as information that transmission operators are expected to share, unless otherwise agreed. n9 Because these and other intervening changes are not material to the substance of the interpretation, the discussion in this Final Rule is intended to apply equally to the subsequent versions of these standards as appropriate.

6. Reliability Standard IRO-005-1 applies to transmission operators, balancing authorities, reliability coordinators and purchasing selling entities. The IRO-005-1 Purpose statement provides: "The Reliability Coordinator must be continuously aware of conditions within its Reliability Coordinator Area and include this information in its reliability assessments. The Reliability Coordinator must monitor Bulk Electric System parameters that may have significant impacts upon the Reliability Coordinator Area and neighboring Reliability Coordinator Areas." Requirement R12 of IRO-005-1 states in relevant part:

Whenever a Special Protection System that may have an inter-Balancing Authority, or inter-Transmission Operator impact (e.g., could potentially affect transmission flows resulting in a SOL or IROL violation) is armed, the Reliability Coordinator shall be aware of the impact of the operation of that Special Protection System on inter-area flows. The Transmission Operator shall immediately inform the Reliability Coordinator of the status of the Special Protection System including any degradation or potential failure to operate as expected.

12. NERC filed its interpretation on November 24, 2009. The interpretation responds to a request from Manitoba Hydro asking NERC to interpret whether a Special Protection System that is operating with only one communication channel in service would be considered "degraded," and thus subject to the reporting requirements found in these standards. n15 NERC's interpretation finds that a transmission owner must report a Special Protection System that is operating with only one communication channel in service to the reliability coordinator and neighboring systems upon request, or when the loss of the communication channel will result in the failure of the Special Protection System to operate as designed.

16. In response to Manitoba Hydro's interpretation request, NERC provided the following:

TOP-005-1 does not provide, nor does it require, a definition for the term "degraded."

The IRO-005-1 ([Requirement] R12) standard implies that degraded is a condition that will result in a failure of an [Special Protection System] to operate as designed. If the loss of a communication channel will result in the failure of an [Special Protection System] to operate as designed, then the Transmission Operator would be mandated to report that information. On the other hand, if the loss of a communication channel will not result in the failure of the [Special Protection System] to operate as designed, then such a condition can be, but is not mandated to be, reported.

17. In the background section of the interpretation, NERC affirms that transmission operators are required to provide information such as that listed in the TOP-005-1, Attachment 1 examples upon request, "whether or not [a facility] is or is not in some undefined 'degraded' state." n17

18. In addition, the background section of the NERC interpretation emphasizes that the information to be provided under IRO-005-1 relates to events that may have a significant impact on the system, especially where operating limits are or may be exceeded. Specifically, this background section states:

IRO-005-1 mandates that each Reliability Coordinator monitor predefined base conditions (Requirement R1), collect additional data when operating limits are or may be exceeded (Requirement R3), and identify actual or potential threats (Requirement R5). The basis for that request is left to each Reliability Coordinator. The Purpose statement of IRO-005-1 focuses on the Reliability Coordinator's obligation to be aware of conditions that may have a "significant" impact upon its area and to communicate that information to others (Requirements R7 and R9). Please note: it is from this communication that Transmission Operators and Balancing Authorities would either obtain or would know to ask for [Special Protection System] information from another Transmission Operator. n18

33. The Commission declines to adopt the NOPR proposal and approves NERC's interpretation of IRO-005-1, Requirement R12 and TOP-005-1, Requirement R3 as submitted. The Commission approves the interpretation as consistent with the language of the Reliability Standards, and finds the interpretation just and reasonable. Based on the comments of NERC and the industry that no reliability gap exists, the Commission will rely on their expert opinion and decline to adopt the NOPR proposal to direct the ERO develop modifications to the Reliability Standards. These actions are discussed more fully below.

34. The Commission agrees with the ERO that, with regard to IRO-005-2 Requirement R12, if a redundant Special Protection System with one communication channel out of service can still perform reliably with the remaining channel and its function would therefore not be considered degraded under IRO-005-2. n32 We also agree with the ERO and Entergy that if a reliability coordinator has identified a Special Protection System that is necessary for Reliable Operation, the reliability coordinator can request detailed data as needed, including the status of the components of a Special Protection System. n33 The Reliability Coordinator is obligated to receive and consider data to support its assessment of the performance of the system in order to protect against SOL and IROL events -- this could include data about the status of communication facilities. n34 We agree with commenters that, while the specific wording in the Requirement does not compel the affected entities to report the outage of a single communication channel as degraded if the system remains functional, the information can be compelled by the Reliability Coordinator.

35. In the NOPR, the Commission expressed concern that the interpretation may create a reliability gap with regard to the reporting requirements for a Special Protection System that is able to operate as designed, but still poses a reliability risk to the Bulk-Power System with loss of a single communication channel with redundant design. The ERO asserts that the fact "that one communication channel of a Special Protection System may be out of service in no way prevents that Special Protection System from performing its designed function." As such, a system operator would not be required to make changes to its operational protocols. The ERO nevertheless states that "...the knowledge of the loss of a communication channel could be of general interest to a reliability coordinator or transmission operator." Finally, the ERO and ISO/RTO Council indicate that this information is available to reliability coordinators pursuant to requirements in other reliability standards, and is therefore not necessary as a reporting requirement in TOP-005-1.

36. We are persuaded that a requirement to report the outage of a single communication channel where redundant channels exist is unnecessary because both the ERO and ISO/RTO point to existing requirements in other Reliability Standards that would make this information available to the reliability coordinator upon its request. n35 Such requirements provide the reliability coordinator authority to compel such information as it may deem necessary to ensure reliable operation of the Bulk-Power System including information on the outage of communication channels. Our review of the record in this proceeding satisfies the concerns we expressed in the NOPR and therefore we do not find it necessary to establish the NOPR reporting requirement proposal.

37. In light of the Commission's decision not to implement the NOPR proposal concerning the reporting of the loss of a redundant communication channel, we need not address commenters' objections to our proposal. Ultimately, the decision whether the redundancy of a particular system is needed to perform as designed is a judgment call that must be made by the appropriate reliability entities (i.e., the transmission operator and the reliability coordinator).

41. With respect to IRO-005-1, the interpretation states that a transmission operator is mandated to report the loss of a communication channel, if the loss will result in the failure of a Special Protection System to operate as designed. Thus, the interpretation and the comments received in this rulemaking clarify that the reporting requirements focus on whether a Special Protection System can continue to perform its reliability function.

**North American Electric Reliability Corporation, 140 FERC ¶ 61,191 (September 13, 2012)**

On June 5, 2012, NERC submitted a filing that requested approval of errata changes to seven Reliability Standards including:

• IRO-005-3a Reliability Coordination – Current Day Operations - remove outdated internal references in Measures M10 and M11 to “Part 2” of Requirements R10 and R11, as no such Parts currently exist. As a result of these changes, this standard will be numbered “IRO 005-3.1a” on a going-forward basis. NERC has also updated the version history table to reflect these revisions and to add clarifying language regarding Versions 2a and 3a of this standard.

NERC’s uncontested filing is approved pursuant to the relevant authority delegated to the Director, Office of Electric Reliability, under 18 C.F.R. § 375.303, as of the date of this order [September 13, 2012].

**Revision History**

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| **Version** | **Date** | **Reviewers** | **Revision Description** |
| 1 | September 2011 | QRSAW WG | Original Document |
| 1 | October 11, 2011 | NERC Legal | Updated Excerpts from FERC Orders from March 31, 2009 through and including October 11, 2011. |
| 1.1 | February 4, 2013 | Jacki Power | Revised RSAW to include errata changes: Since errata only applicable to Measures, only change made was to RSAW name. |
| 1.1 | April 15, 2013 | NERC Legal | Updated excerpts from FERC orders from October 11, 2011 through and including April 15, 2013. |
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