

**Compliance Questionnaire and**

**Reliability Standard Audit Worksheet**

**IRO–008–1 — Reliability Coordinator Operational Analyses and Real-time Assessments**

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

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

**Applicable Function(s): Reliability Coordinator**

**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. Include additional sheets if necessary.

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

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| --- | --- | --- | --- |
| **SME Name** | **Title** | **Organization** | **Requirement** |
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Reliability Standard Language

**IRO-008-1 — Reliability Coordinator Operational Analyses and Real-time Assessments**

**Purpose:**

To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring that the Bulk Electric System is assessed during the operations horizon.

**Applicability:**

Reliability Coordinator

**NERC BOT Approval Date:**

**FERC Approval Date:**

**Reliability Standard Enforcement Date in the United States:**

**Requirements:**

1. Each Reliability Coordinator shall perform an Operational Planning Analysis to assess whether the planned operations for the next day within its Wide Area, will exceed any of its Interconnection Reliability Operating Limits (IROLs) during anticipated normal and Contingency event conditions. *(Violation Risk Factor: Medium) (Time Horizon: Operations Planning)*

**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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| --- | --- | --- | --- |
|  | **Provide the following:**  **Document Title and/or File Name, Page & Section, Date & Version** | | |
| **Title** | | **Date** | **Version** | |
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| *Audit Team: Additional Evidence Reviewed:* | |  |  | |
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***This section must be completed by the Compliance Enforcement Authority.***

**Compliance Assessment Approach Specific to IRO-008-1 R1**

\_\_\_\_ Determine if each Reliability Coordinator performed an Operational Planning Analysis to assess whether the planned operations for the next day within its Wide Area would exceed any of its Interconnection Reliability Operating Limits (IROLs) during anticipated normal and Contingency event conditions.

**Detailed notes:**

**R2**. Each Reliability Coordinator shall perform a Real-Time Assessment at least once every 30

minutes to determine if its Wide Area is exceeding any IROLs or is expected to exceed

any IROLs.

**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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| --- | --- | --- | --- |
|  | **Provide the following:**  **Document Title and/or File Name, Page & Section, Date & Version** | | |
| **Title** | | **Date** | **Version** | |
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| *Audit Team: Additional Evidence Reviewed:* | |  |  | |
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***This section must be completed by the Compliance Enforcement Authority.***

**Compliance Assessment Approach Specific to IRO-008-1 R2**

\_\_\_\_ Determine if each Reliability Coordinator performed a Real-Time Assessment at least

once every 30 minutes to determine if its Wide Area is exceeding any IROLs or is

expected to exceed any IROLs.

**Detailed notes:**

**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.

**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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| --- | --- | --- | --- |
|  | **Provide the following:**  **Document Title and/or File Name, Page & Section, Date & Version** | | |
| **Title** | | **Date** | **Version** | |
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| *Audit Team: Additional Evidence Reviewed:* | |  |  | |
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***This section must be completed by the Compliance Enforcement Authority.***

**Compliance Assessment Approach Specific to IRO-008-1 R3**

\_\_\_\_ Establish whether the Reliability Coordinator determined that the results

of an Operational Planning Analysis or Real-Time Assessment indicated

the need for specific operational actions to prevent or mitigate an

instance of exceeding an IROL.

\_\_\_\_If so, verify the Reliability Coordinator shared its results with those

entities that were expected to take those actions.

**Detailed notes:**

# Supplemental Information

**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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| **Req.** | **NF** | **PV** | **OEA** | **NA** | **Statement** |
| **1** |  |  |  |  |  |
| **2** |  |  |  |  |  |
| **3** |  |  |  |  |  |

Excerpts from FERC Orders -- For Reference Purposes Only

Updated Through October 11, 2011

IRO-008- 1

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

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."

1. IRO-008-1

11. Reliability Standard IRO-008-1 has the stated purpose of preventing instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring that the bulk electric system is assessed during the operations horizon. The proposed Reliability Standard applies to reliability coordinators. IRO-008-1 requires the reliability coordinator to use analyses and assessments as methods of achieving the stated goal. The Reliability Standard requires analysis of the reliability coordinator's Wide-Area ahead of time and during real-time. It also requires communication with the entities that need to take specific operational actions based on the analyses and assessments.

12. Reliability Standard IRO-008-1 contains three requirements. Requirement R1 requires each reliability coordinator to perform an Operational Planning Analysis to assess whether the planned operations for the next day within its Wide-Area will exceed any of its IROLs during anticipated normal and contingency event conditions. Requirement R2 requires the reliability coordinator to perform a Real-Time Assessment at least once every 30 minutes to determine if its Wide Area is exceeding any IROLs or is expected to exceed any IROLs. Requirement R3 requires a reliability coordinator to share the results of an Operational Planning Analysis or Real-Time Assessment that indicates the need for specific operational actions to prevent or mitigate an instance of exceeding an IROL with those entities that are expected to take those actions.

13. NERC also requests approval of two new terms that appear in IRO-008-1: "Operational Planning Analysis" and "Real-time Assessment." Operational Planning Analysis is defined as:

An analysis of the expected system conditions for the next day's operation. (That analysis may be performed either a day ahead or as much as 12 months ahead.) Expected system conditions include things such as load forecast(s), generation output levels, and known system constraints (transmission facility outages, generator outages, equipment limitations, etc.).

NERC states that the definition was designed to provide greater specificity regarding the day-ahead study.

14. The proposed term "Real-time Assessment" is defined as "[a]n examination of existing and expected system conditions, conducted by collecting and reviewing immediately available data." NERC states that the purpose of the new term is to assure that the reliability coordinator is required to conduct a real-time assessment, including situations in which the reliability coordinator is operating without its primary analysis facilities and has implemented the work-around requirements of IRO-002-2, Requirement R8.

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.

33. NERC asserts that, because proposed Reliability Standard IRO-008-1 requires reliability coordinators to use tools to model transmission and generation assets based on ratings provided by asset owners, it is unnecessary to impose an additional requirement that the reliability coordinator have a documented methodology for identifying the SOL information it needs because the systems and controls in place already provide the information needed by the reliability coordinators. The Joint Commenters also believe that such a methodology is unnecessary because, in its defined role, a reliability coordinator already will have access to, and be provided with, the appropriate set of SOLs from the transmission operator.

72. Because a determination has not yet been made regarding NERC's "roll-up" approach pending before the Commission in Docket Nos. RR08-4-005 and RR08-4-006, the Commission will defer discussion on the proposed violation risk factors and violation severity levels assigned to IRO-008-1, IRO-009-1, and IRO-010-1a, until after the Commission issues a final order acting on NERC's petition in these proceedings.

**Revision History**

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| --- | --- | --- | --- |
| **Version** | **Date** | **Reviewers** | **Revision Description** |
| 1 | September 2011 | QRSAW WG | Original Document |
| 1 | October 11, 2011 | NERC Legal | Added Excerpts from FERC Orders through and including October 11, 2011. |
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