

# Reliability Standard Audit Worksheet<sup>1</sup>

## IRO-002-4 – Reliability Coordination – Monitoring and Analysis

**This section to be completed by the Compliance Enforcement Authority.**

**Audit ID:** Audit ID if available; or REG-NCRnnnnn-YYYYMMDD  
**Registered Entity:** Registered name of entity being audited  
**NCR Number:** NCRnnnnn  
**Compliance Enforcement Authority:** Region or NERC performing audit  
**Compliance Assessment Date(s)<sup>2</sup>:** Month DD, YYYY, to Month DD, YYYY  
**Compliance Monitoring Method:** [On-site Audit | Off-site Audit | Spot Check]  
**Names of Auditors:** Supplied by CEA

### Applicability of Requirements

	BA	DP	GO	GOP	IA	LSE	PA	PSE	RC	RP	RSG	TO	TOP	TP	TSP
R1									X						
R2									X						
R3									X						
R4									X						

### Legend:

Text with blue background:	Fixed text – do not edit
Text entry area with Green background:	Entity-supplied information
Text entry area with white background:	Auditor-supplied information

<sup>1</sup> 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. 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.

<sup>2</sup> Compliance Assessment Date(s): The date(s) the actual compliance assessment (on-site audit, off-site spot check, etc.) occurs.

**DRAFT** NERC Reliability Standard Audit Worksheet

**Findings**

(This section to be completed by the Compliance Enforcement Authority)

Req.	Finding	Summary and Documentation	Functions Monitored
R1			
R2			
R3			
R4			

Req.	Areas of Concern

Req.	Recommendations

Req.	Positive Observations

**DRAFT** NERC Reliability Standard Audit Worksheet

**Subject Matter Experts**

Identify the Subject Matter Expert(s) responsible for this Reliability Standard.

Registered Entity Response (Required; Insert additional rows if needed):

SME Name	Title	Organization	Requirement(s)

DRAFT

**DRAFT NERC Reliability Standard Audit Worksheet**

**R1 Supporting Evidence and Documentation**

**R1.** Each Reliability Coordinator shall have data exchange capabilities with Balancing Authorities and Transmission Operators, and with other entities it deems necessary, for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

**M1.** Each Reliability Coordinator shall have and provide upon request, evidence that could include but is not limited to a document that lists its data exchange capabilities with Balancing Authorities and Transmission Operators, and with other entities it deems necessary, for it to perform its operational Planning Analyses, Real-time monitoring, and real-time Assessments.

**Compliance Narrative (Required):**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

**Evidence Requested:**

Provide the following evidence, or other evidence to demonstrate compliance.
Provide a list(s) of data exchange capabilities with Transmission Operators, Balancing Authorities, and other entities <del>it</del> <u>the Reliability Coordinator</u> deemed necessary.
Documentation may include appropriate data exchange system diagrams and or facilities with notations showing specific data exchange facilities with Transmission Operators, Balancing Authorities and any other entities <u>the Reliability Coordinator</u> deemed necessary.

**Registered Entity Evidence (Required):**

<b>The following information is requested for each document submitted as evidence. Evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.</b>					
File Name	Document Title	Revision or Version	Document Date	Relevant Page(s) or Section(s)	Description of Applicability of Document

**Evidence Reviewed by Audit Team (This section to be completed by the Compliance Enforcement Authority):**


**Compliance Assessment Approach Specific to IRO-002-4, R1**

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

**DRAFT** NERC Reliability Standard Audit Worksheet

Audit ID: Audit ID if available; or NCRnnnnn-YYYYMMDD

RSAW Version: RSAW\_IRO-002-4\_2014\_v31 Revision Date: ~~August~~ October, 2014 RSAW Template: RSAW2014R1.0

**DRAFT NERC Reliability Standard Audit Worksheet**

(R1) Review a list of Transmission Operators, Balancing Authorities, and other entities within its Reliability Coordinator Area and neighboring Reliability Coordinators and ensure ~~a~~ relationships for providing ~~for~~ data exchange capabilities exists as required ~~by the Reliability Standard~~ in Requirement R1.

**Note to auditor:** List(s) and documentation which is not adequately annotated to clearly show proof of compliance may require an interview with entity Subject Matter Experts.

**Auditor Notes:**

--

DRAFT

**DRAFT NERC Reliability Standard Audit Worksheet**

**R2 Supporting Evidence and Documentation**

**R2.** Each Reliability Coordinator shall provide its System Operators with the authority to approve planned outages and maintenance of its telecommunication, monitoring and analysis capabilities.

**M2.** Each Reliability Coordinator shall have and provide upon request evidence that could include but is not limited to a documented procedure or equivalent evidence that will be used to confirm that the Reliability Coordinator has provided its System Operators with the authority to approve planned outages and maintenance of its telecommunication, monitoring and analysis capabilities.

**Compliance Narrative (Required):**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

**Requested:**

Provide the following evidence, or other evidence to demonstrate compliance.
Provide documented procedure(s) or equivalent evidence that confirms that the entity has provided its System Operator staff with the authority to approve planned outages and maintenance of its telecommunications, monitoring, and analysis capabilities.

**Registered Entity Evidence (Required):**

The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.

File Name	Document Title	Revision or Version	Document Date	Relevant Page(s) or Section(s)	Description of Applicability of Document

**Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):**


**Compliance Assessment Approach Specific to IRO-002-4, R2**

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

	(R2) Review documented procedures or equivalent evidence and confirm that the entity has provided its System Operator staff with the authority to approve planned outages and maintenance of its telecommunications, monitoring, and analysis capabilities.
--	---

**Note to Auditor:** This can be verified through Operator interview questions.

**Auditor Notes:**

--

DRAFT

**R3 Supporting Evidence and Documentation**

**R3.** Each Reliability Coordinator shall monitor Facilities, the status of Special Protection Systems, and sub-100 kV facilities identified as necessary by the Reliability Coordinator, within its Reliability Coordinator Area and neighboring Reliability Coordinator Areas to identify any System Operating Limit exceedances and to determine any Interconnection Reliability Operating Limit exceedances within its Reliability Coordinator Area.

**M3.** Each Reliability Coordinator shall have, and provide upon request, evidence that could include but is not limited to Energy Management System description documents, computer printouts, SCADA data collection, or other equivalent evidence that will be used to confirm that it has monitored Facilities, the status of Special Protection Systems, and sub-100 kV facilities identified as necessary by the Reliability Coordinator, within its Reliability Coordinator Area and neighboring Reliability Coordinator Areas to identify any System Operating Limit exceedances and to determine any Interconnection Reliability Operating Limit exceedances within its Reliability Coordinator Area.

**Compliance Narrative (Required):**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

**Evidence Requested<sup>1</sup>:**

Provide the following evidence, or other evidence to demonstrate compliance.
Energy Management System (EMS) description documents, computer printouts, summary of SCADA collections of Real-time monitoring telemetry, or other equivalent evidence that will be used to confirm that the entity has monitored Facilities within its <u>Reliability Coordinator</u> Area and neighboring <u>Reliability Coordinator</u> Areas.
List(s) of monitored Special Protection Systems with <u>in</u> the <u>Reliability Coordinator's</u> area.
List(s) of identified or monitored sub-100 kV facilities which <del>were</del> <u>are</u> needed to <del>make</del> <u>identify</u> <del>ication(s) of</del> System Operating Limit exceedances or to determine Interconnection Reliability Operating Limit exceedances within its <u>Reliability Coordinator</u> Area.

**Registered Entity Evidence (Required):**

<b>The following information is requested for each document submitted as evidence. Evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.</b>					
File Name	Document Title	Revision or Version	Document Date	Relevant Page(s) or Section(s)	Description of Applicability of Document



**DRAFT NERC Reliability Standard Audit Worksheet**

**Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):**


**Compliance Assessment Approach Specific to IRO-002-4, R3**

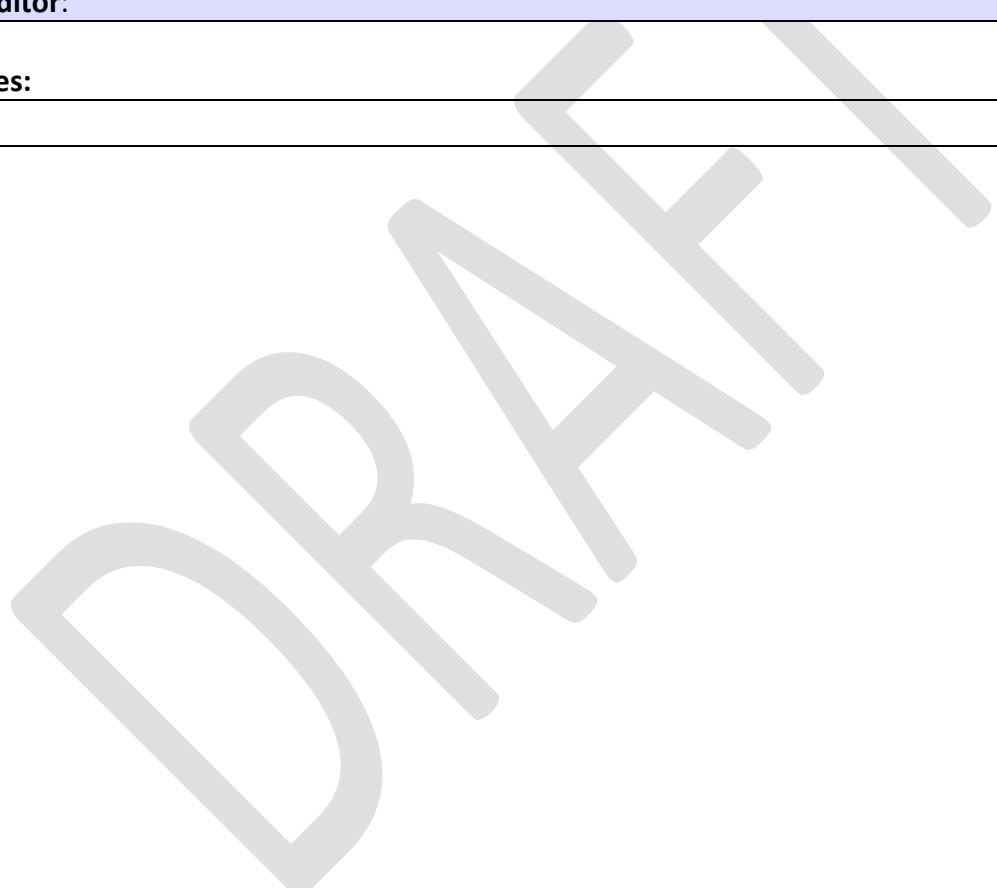
**This section to be completed by the Compliance Enforcement Authority**

(R3) For all, or a sample of, Facilities, Special Protection Systems, and sub-100 kV facilities identified as necessary by the entity, within its <u>Reliability Coordinator</u> Area and neighboring Reliability Coordinator Areas, review evidence and determine if the entity monitored them to identify any System Operating Limit exceedances and to determine any Interconnection Reliability Operating Limit exceedances within its area.
--

<b>Note to Auditor:</b>
-------------------------

**Auditor Notes:**

--



**R4 Supporting Evidence and Documentation**

**R4.** Each Reliability Coordinator shall have monitoring systems that provide information utilized by the Reliability Coordinator’s operating personnel, giving particular emphasis to alarm management and awareness systems, automated data transfers, and synchronized information systems, over a redundant infrastructure.

**M4.** The Reliability Coordinator shall have, and provide upon request, evidence that could include but is not limited to Energy Management System description documents, computer printouts, SCADA data collection, or other equivalent evidence that will be used to confirm that it has monitoring systems consistent with the requirement.

**Compliance Narrative (Required):**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

**Evidence Requested:**

**Provide the following evidence, or other evidence to demonstrate compliance.**

Reliability Coordinator Energy Management System (EMS) description documents, computer printouts, summary of SCADA data collection of ~~R~~real-time telemetry, or other equivalent evidence that will be used to confirm that it has monitoring systems consistent with ~~the R~~requirement R4. Evidence must be specific to alarm management and awareness systems, automated data transfers, and synchronized information systems. Documentation should be specific and detailed showing how infrastructure is provisioned to operate in a redundant manner.

**Registered Entity Evidence (Required):**

**The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.**

File Name	Document Title	Revision or Version	Document Date	Relevant Page(s) or Section(s)	Description of Applicability of Document

**Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):**

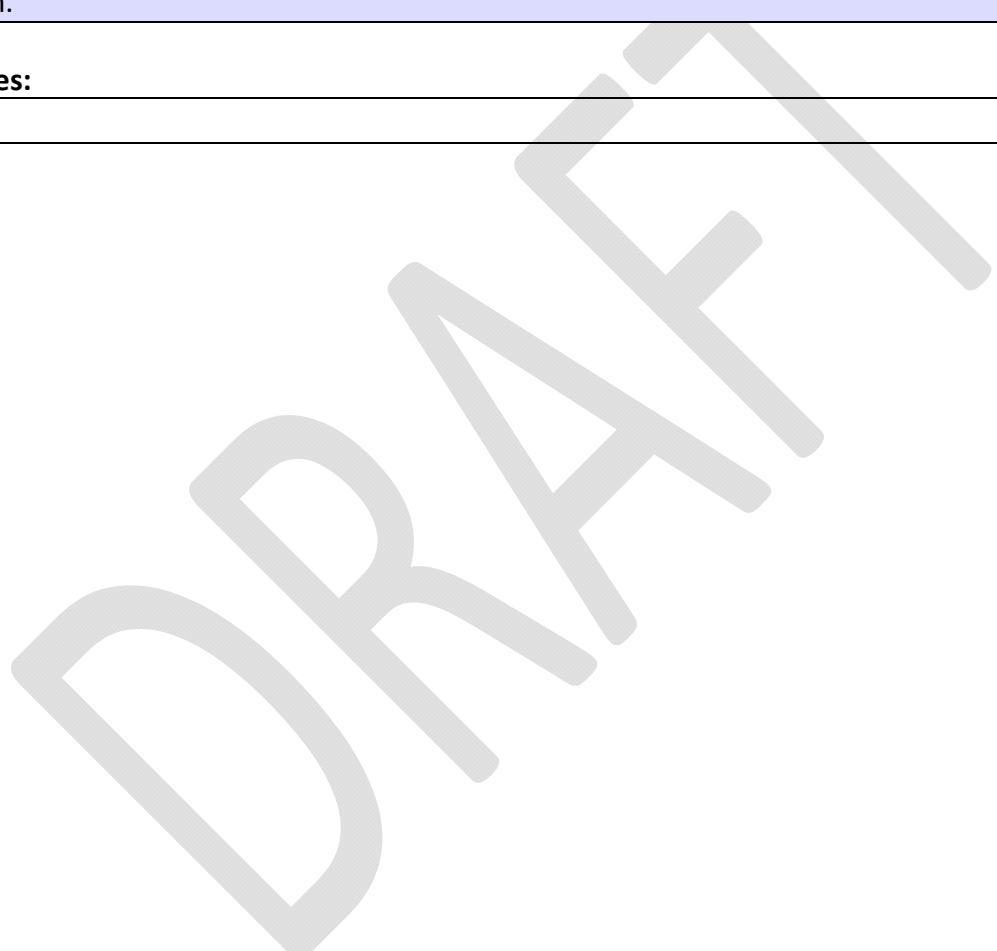
**Compliance Assessment Approach Specific to IRO-002-4, R4**

This section to be completed by the Compliance Enforcement Authority

	Review evidence and determine if the entity had redundant monitoring systems that:
	<ul style="list-style-type: none"><li>• provide information utilized by the Reliability Coordinator’s operating personnel.</li></ul>
	<ul style="list-style-type: none"><li>• emphasize alarm management and awareness systems.</li></ul>
	<ul style="list-style-type: none"><li>• emphasize automated data transfers.</li></ul>
	<ul style="list-style-type: none"><li>• emphasize synchronized information systems.</li></ul>
<b>Note to Auditor:</b> Potential non-compliance with this requirement may indicate a need for supplemental compliance monitoring to assure the entity is in compliance with the COM-001-X requirement to have adequate and reliable telecommunications facilities for the exchange of Interconnection and operating information.	

**Auditor Notes:**

--



**Additional Information:**

**Reliability Standard**

To be inserted by RSAW developer prior to posting of this RSAW associated with the enforceable date of this Reliability Standard.

**Sampling Methodology**

To be inserted by RSAW developer prior to posting of this RSAW associated with the enforceable date of this Reliability Standard, if applicable.

**Regulatory Language**

To be inserted by NERC Legal prior to posting of this RSAW associated with the enforceable date of this Reliability Standard.

**Selected Glossary Terms**

To be inserted by RSAW developer prior to posting of this RSAW associated with the enforceable date of this Reliability Standard, if applicable.

DRAFT

**DRAFT** NERC Reliability Standard Audit Worksheet

**Revision History for RSAW**

Version	Date	Reviewers	Revision Description
1	06/20/2014	Initial Posting	New Document
2	08/29/2014	NERC Compliance, NERC Standards, RSAWTF	Revisions for updated standard language and comments received during comment period.
<u>3</u>	<u>10/16/2014</u>	<u>NERC Compliance, NERC Standards</u>	<u>Revisions for updated standard language and comments received during second comment period.</u>

<sup>i</sup> Items in the Evidence Requested section are suggested evidence that may, but will not necessarily, demonstrate compliance. These items are not mandatory and other forms and types of evidence may be submitted at the entity's discretion.

DRAFT