

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

## PER-006-1 – Specific Training for Personnel

*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/PC	PSE	RC	RP	RSG	TO	TOP	TP	TSP
R1				X <sup>3</sup>											

### 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.

<sup>3</sup> Generator Operator that has plant personnel who are responsible for the Real-time control of a generator and receive Operating Instruction(s) from the Generator Operator’s Reliability Coordinator, Balancing Authority, Transmission Operator, or centrally located dispatch center.

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**Findings**

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

Req.	Finding	Summary and Documentation	Functions Monitored
R1			

Req.	Areas of Concern

Req.	Recommendations

Req.	Positive Observations

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**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)

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### **R1 Supporting Evidence and Documentation**

- R1.** Each Generator Operator shall provide training to personnel identified in Applicability section 4.1.1.1. on the operational functionality of Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility(ies) it operates.
- M1.** Each Generator Operator shall have available for inspection, evidence that the applicable personnel completed training. This evidence may be documents such as training records showing successful completion of training that includes training materials, the name of the person, and date of training.

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

##### **Compliance Narrative:**

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:**

<b>Provide the following evidence, or other evidence to demonstrate compliance.</b>
Evidence that the entity identified the responsible personnel and set of applicable Protection Systems and Remedial Action Schemes that affect the output of the generating Facility(ies) it operates.
Evidence that all, or a requested sample of, the identified personnel completed training, which may include documents such as training records showing successful completion of training that includes training materials, the name of the person, and date of training.
Documentation of changes or additions during the compliance monitoring period <sup>4</sup> to Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility(ies).

#### **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):**


<sup>4</sup> Compliance monitoring period is determined by the compliance monitoring method selected by the CEA on the first page of this document.



**Additional Information:**

**Reliability Standard**

*The RSAW developer should provide the following information without hyperlinks. Update the information below as appropriate.*

The full text of STD-OXX-N may be found on the NERC Web Site (www.nerc.com) under “Program Areas & Departments”, “Reliability Standards.”

In addition to the Reliability Standard, there is an applicable Implementation Plan available on the NERC Web Site.

In addition to the Reliability Standard, there is background information available on the NERC Web Site.

Capitalized terms in the Reliability Standard refer to terms in the NERC Glossary, which may be found on the NERC Web Site.

**Sampling Methodology [If developer deems reference applicable]**

Sampling is essential for auditing compliance with NERC Reliability Standards since it is not always possible or practical to test 100% of either the equipment, documentation, or both, associated with the full suite of enforceable standards. The Sampling Methodology Guidelines and Criteria (see NERC website), or sample guidelines, provided by the Electric Reliability Organization help to establish a minimum sample set for monitoring and enforcement uses in audits of NERC Reliability Standards.

**Regulatory Language [Developer to ensure RSAW has been provided to NERC Legal for links to appropriate Regulatory Language – See example below]**

E.g. FERC Order No. 742 paragraph 34: “Based on NERC’s.....”

E.g. FERC Order No. 742 Paragraph 55, Commission Determination: “We affirm NERC’s.....”

**Selected Glossary Terms [If developer deems applicable]**

The following Glossary terms are provided for convenience only. Please refer to the NERC web site for the current enforceable terms.

**Facility** – A set of electrical equipment that operates as a single Bulk Electric System Element (e.g., a line, a generator, a shunt compensator, transformer, etc.).

**Operating Instruction** – A command by operating personnel responsible for the Real-time operation of the interconnected Bulk Electric System to change or preserve the state, status, output, or input of an Element of the Bulk Electric System or Facility of the Bulk Electric System. (A discussion of general information and of potential options or alternatives to resolve Bulk Electric System operating concerns is not a command and is not considered an Operating Instruction.)

**Protection System –**

- Protective relays which respond to electrical quantities,
- Communications systems necessary for correct operation of protective functions
- Voltage and current sensing devices providing inputs to protective relays,
- Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply), and
- Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

**Remedial Action Scheme –**

A scheme designed to detect predetermined System conditions and automatically take corrective actions that may include, but are not limited to, adjusting or tripping generation (MW and Mvar), tripping load, or reconfiguring a System(s). RAS accomplish objectives such as:

- Meet requirements identified in the NERC Reliability Standards;
- Maintain Bulk Electric System (BES) stability;
- Maintain acceptable BES voltages;
- Maintain acceptable BES power flows;
- Limit the impact of Cascading or extreme events.

The following do not individually constitute a RAS:

- a. Protection Systems installed for the purpose of detecting Faults on BES Elements and isolating the faulted Elements
- b. Schemes for automatic underfrequency load shedding (UFLS) and automatic undervoltage load shedding (UVLS) comprised of only distributed relays
- c. Out-of-step tripping and power swing blocking
- d. Automatic reclosing schemes
- e. Schemes applied on an Element for non-Fault conditions, such as, but not limited to, generator loss-of-field, transformer top-oil temperature, overvoltage, or overload to protect the Element against damage by removing it from service
- f. Controllers that switch or regulate one or more of the following: series or shunt reactive devices, flexible alternating current transmission system (FACTS) devices, phase-shifting transformers, variable-frequency transformers, or tap-changing transformers; and, that are located at and monitor quantities solely at the same station as the Element being switched or regulated
- g. FACTS controllers that remotely switch static shunt reactive devices located at other stations to regulate the output of a single FACTS device
- h. Schemes or controllers that remotely switch shunt reactors and shunt capacitors for voltage regulation that would otherwise be manually switched
- i. Schemes that automatically de-energize a line for a non-Fault operation when one end of the line is open
- j. Schemes that provide anti-islanding protection (e.g., protect load from effects of being isolated with generation that may not be capable of maintaining acceptable frequency and voltage)
- k. Automatic sequences that proceed when manually initiated solely by a System Operator
- l. Modulation of HVdc or FACTS via supplementary controls, such as angle damping or frequency damping applied to damp local or inter-area oscillations

- m. Sub-synchronous resonance (SSR) protection schemes that directly detect sub-synchronous quantities (e.g., currents or torsional oscillations)
  - n. Generator controls such as, but not limited to, automatic generation control (AGC), generation excitation [e.g. automatic voltage regulation (AVR) and power system stabilizers (PSS)], fast valving, and speed governing
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**Revision History for RSAW**

Version	Date	Reviewers	Revision Description
1	03/22/2016	NERC Compliance Assurance, RSAW Task Force	New Document

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