

**Compliance Questionnaire and**

**Reliability Standard Audit Worksheet**

**PRC-022-1 — Under-Voltage Load Shedding Program Performance**

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

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

**Applicable Function(s):** TO, DP, and LSE (that operate UVLS programs)

**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. 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

**PRC‑022‑1 ‑ Under‑Voltage Load Shedding Program Performance**

**Purpose:**

Ensure that Under Voltage Load Shedding (UVLS) programs perform as intended to mitigate the risk of voltage collapse or voltage instability in the Bulk Electric System (BES).

**Applicability:**

Distribution Provider that operates a UVLS program

Load Serving Entity that operates a UVLS program

Transmission Operator that operates a UVLS program

**NERC BOT Approval Date: 2/7/2006**

**FERC Approval Date: 3/16/2007**

**Reliability Standard Enforcement Date in the United States: 6/18/2007**

**Requirements:**

**R.1** Each Transmission Operator, Load‑Serving Entity, and Distribution Provider that operates a UVLS program to mitigate the risk of voltage collapse or voltage instability in the BES shall analyze and document all UVLS operations and Misoperations. The analysis shall include:

**R1.1** A description of the event including initiating conditions

**R1.2** A review of the UVLS set points and tripping times

**R1.3** A simulation of the event, if deemed appropriate by the Regional Reliability Organization. For most events, analysis of sequence of events may be sufficient and dynamic simulations may not be needed.

**R1.4** A summary of the findings

**R1.5** For any Misoperation, a Corrective Action Plan to avoid future Misoperations of a similar nature

**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)***

|  |  |  |  |
| --- | --- | --- | --- |
|  | **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 PRC‑022‑1 R1**

Verify the entity operates a UVLS program. If yes:

**\_\_\_** Verify the entity has analyzed and documented all UVLS operations and misoperations.

Verify the analysis includes:

**\_\_\_** A description of the event including initiating conditions

**\_\_\_** A review of the UVLS set points and tripping times

**\_\_\_**A simulation of the event, if deemed appropriate by the Regional Reliability Organization. For most events, analysis of sequence of events may be sufficient and dynamic simulations may not be needed.

**\_\_\_** A summary of the findings

**\_\_\_** For any Misoperation, a Corrective Action Plan to avoid future Misoperations of a similar nature

**Detailed Notes:**

**R2.** Each Transmission Operator, Load‑Serving Entity, and Distribution Provider that operates a UVLS program shall provide documentation of its analysis of UVLS program performance to its Regional Reliability Organization within 90 calendar days of a request.

(Retirement approved by FERC effective January 21, 2014.)

# 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.** | **C** | **PV** | **NA** | **Statement** |
| **1** |  |  |  |  |
| **2** | (Retirement approved by FERC effective January 21, 2014.) | | | |

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

**Updated Through March 31, 2009**

**PRC-022-1**

P1418 "Protection and Control systems (PRC) on Bulk‑Power System elements are an integral part of reliable grid operation. Protection systems are designed to detect and isolate faulty elements on a system, thereby limiting the severity and spread of system disturbances, and preventing possible damage to protected elements. The function, settings and limitations of a protection system are critical in establishing SOLs and IROLs. The PRC Reliability Standards apply to transmission operators, transmission owners, generator operators, generator owners, distribution providers and regional reliability organizations and cover a wide range of topics related to the protection and control of power systems."

1561 “PRC‑022‑1 requires transmission operators, LSEs, and distribution providers to provide analysis, documentation and misoperation data on UVLS operations to the regional reliability organization”

P1565"For the reasons discussed in the NOPR, the Commission concludes that Reliability Standard PRC‑022‑1 is just, reasonable, not unduly discriminatory or preferential, and in the public interest and approves it as mandatory and enforceable."

**Revision History**

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| --- | --- | --- | --- |
| **Version** | **Date** | **Reviewers** | **Revision Description** |
| 1 | December 2009 | RSAW Working Group | New Document. |
| 1 | December 2010 | QRSAW WG | Revised Findings Table, modified Supporting Evidence tables, and added Revision History. |
| 1 | January 2011 | Craig Struck | Reviewed for format consistency and content. |
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