

**Reliability Standard Audit Worksheet[[1]](#footnote-1)**

# MOD-025-2 – Verification and Data Reporting of Generator Real and Reactive Power Capability and Synchronous Condenser Reactive Power Capability

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

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| **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)[[2]](#footnote-2):** | 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**

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|  | **BA** | **DP** | **GO** | **GOP** | **IA** | **LSE** | **PA** | **PSE** | **RC** | **RP** | **RSG** | **TO** | **TOP** | **TP** | **TSP** |
| **R1** |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |
| **R2** |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |
| **R3** |  |  |  |  |  |  |  |  |  |  |  | X[[3]](#footnote-3) |  |  |  |

**Legend:**

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| 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 |

Findings

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

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| --- | --- | --- | --- |
| **Req.** | **Finding** | **Summary and Documentation** | **Functions Monitored** |
| **R1** |  |  |  |
| **R2** |  |  |  |
| **R3** |  |  |  |

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| **Req.** | **Areas of Concern** |
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| **Req.** | **Recommendations** |
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| **Req.** | **Positive Observations** |
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Effective Dates

**United States**

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| **Standard** | **Requirement** | **Effective Date** | **% of Applicable Facilities** |
| MOD-025-2 | R1.,R2.,R3. | **07/01/2016** | 40% |
| MOD-025-2 | R1.,R2.,R3. | **07/01/2017** | 60% |
| MOD-025-2 | R1.,R2.,R3. | **07/01/2018** | 80% |
| MOD-025-2 | R1.,R2.,R3. | **07/01/2019** | 100% |

**Applicability**

**Facilities**

For the purpose of this standard, the term, “applicable Facility” shall mean any one of

the following:

* Individual generating unit greater than 20 MVA (gross nameplate rating) directly connected to the Bulk Electric System.
* Synchronous condenser greater than 20 MVA (gross nameplate rating) directly connected to the Bulk Electric System.
* Generating plant/Facility greater than 75 MVA (gross aggregate nameplate rating) directly connected to the Bulk Electric System.

Subject Matter Experts

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

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

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| **SME Name** | **Title** | **Organization** | **Requirement(s)** |
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R1 Supporting Evidence and Documentation

**R1.** Each Generator Owner shall provide its Transmission Planner with verification of the Real Power capability of its applicable Facilities as follows**:**

**1.1.** Verify the Real Power capability of its generating units in accordance with Attachment 1**.**

**1.2.** Submit a completed Attachment 2 (or a form containing the same information as identified in Attachment 2) to its Transmission Planner within 90 calendar days of either (i) the date the data is recorded for a staged test; or (ii) the date the data is selected for verification using historical operational data.

**M1.** Each Generator Owner will have evidence that it performed the verification, such as a completed Attachment 2 or the Generator Owner form with the same information or dated information collected and used to complete attachments, and will have evidence that it submitted the information within 90 days to its Transmission Planner; such as dated electronic mail messages or mail receipts in accordance with Requirement R1.

Evidence Requested:[[4]](#endnote-1)

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| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| A list of all applicable Facilities with date of the verification of capability testing. Although such a list is not required for compliance, it serves to facilitate compliance monitoring. |
| Dated submittal of verification to Transmission Planner. |
| Copies of completed Attachment 2 (or a form containing same information identified in Attachment 2) for all applicable facilities with submittal dates to TP. |

**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.

Registered Entity Evidence (Required):

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

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Compliance Assessment Approach Specific to MOD-025-2, R1

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

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|  | (Part 1.1) Verify new Real Power capability verifications were performed within the periodicity required in Attachment 1. |
|  | (Part 1.1) Verify that all Real Power capability data fields were completed. |
|  | (Part 1.2) For all or a sample of applicable Facilities, verify that the Generator Owner submitted the required verification forms for each applicable generating unit to its Transmission Planner within 90 days of either the date the data is recorded for a staged test; or the date the data is selected for verification using historical operational data. |
| **Note to Auditor:** The first verification for each applicable Facility under this standard must be a staged test. | |

Auditor Notes:

R2 Supporting Evidence and Documentation

**R2.** Each Generator Owner shall provide its Transmission Planner with verification of the Reactive Power capability of its applicable Facilities as follows:

**2.1.** Verify, in accordance with Attachment 1, (i) the Reactive Power capability of its generating units and (ii) the Reactive Power capability of its synchronous condenser units.

**2.2.** Submit a completed Attachment 2 (or a form containing the same information as identified in Attachment 2) to its Transmission Planner within 90 calendar days of either (i) the date the data is recorded for a staged test; or (ii) the date the data is selected for verification using historical operational data.

**M2.** Each Generator Owner will have evidence that it performed the verification, such as a completed Attachment 2 or the Generator Owner form with the same information, or dated information collected and used to complete attachments and will have evidence that it submitted the information within 90 days to its Transmission Planner; such as dated electronic mail messages or mail receipts in accordance with Requirement R2.

Evidence Requestedi:

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| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| A list of all applicable Facilities (generating units and synchronous condensers) with date of the verification of capability testing. Although such a list is not required for compliance, it serves to facilitate compliance monitoring. |
| Dated submittal of verification to Transmission Planner. |
| Copies of completed Attachment 2 (or a form containing same information identified in Attachment 2) for all applicable facilities with submittal dates to TP. |

**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.

Registered Entity Evidence (Required):

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

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Compliance Assessment Approach Specific to MOD-025-2, R2

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

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|  | (Part 2.1) Verify new Reactive Power capability verifications were performed within the periodicity required in Attachment 1. |
|  | (Part 2.1) Verify that all Reactive Power capability data fields were completed. |
|  | (Part 2.2) For all or a sample of applicable Facilities, verify that the Generator Owner submitted the required verification forms for each applicable Facility to its Transmission Planner within 90 days of either the date the data is recorded for a staged test; or the date the data is selected for verification using historical operational data. |
| **Note to Auditor:** The first verification for each applicable Facility under this standard must be a staged test. | |

Auditor Notes:

R3 Supporting Evidence and Documentation

**R3.** Each Transmission Owner shall provide its Transmission Planner with verification of the Reactive Power capability of its applicable Facilities as follows:

**3.1.** Verify, in accordance with Attachment 1, the Reactive Power capability of its synchronous condenser units.

**3.2.** Submit a completed Attachment 2 (or a form containing the same information as identified in Attachment 2) to its Transmission Planner within 90 calendar days of either (i) the date the data is recorded for a staged test; or (ii) the date the data is selected for verification using historical operational data.

**M3.** Each Transmission Owner will have evidence that it performed the verification, such as a completed Attachment 2 or the Transmission Owner form with equivalent information or dated information collected and used to complete attachments, and will have evidence that it submitted the information within 90 days to its Transmission Planner; such as dated electronic mail messages or mail receipts in accordance with Requirement R3.

Evidence Requestedi:

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| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| A list of all applicable Facilities with date of the verification of capability testing. Although such a list is not required for compliance, it serves to facilitate compliance monitoring. |
| Dated submittal of verification to Transmission Planner. |
| Copies of completed Attachment 2 (or a form containing same information identified in Attachment 2) for all applicable facilities with submittal dates to TP. |

**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.

Registered Entity Evidence (Required):

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

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Compliance Assessment Approach Specific to MOD-025-2, R3

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

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|  | (Part 3.1) Verify new Reactive Power capability verifications were performed within the periodicity required in Attachment 1. |
|  | (Part 3.1) Verify that all Reactive Power capability data fields were completed. |
|  | (Part 3.2) For all or a sample of applicable Facilities, verify that the Transmission Owner submitted the required verification forms for each applicable Facility to its Transmission Planner within 90 days of either the date the data is recorded for a staged test; or the date the data is selected for verification using historical operational data. |
| **Note to Auditor:** The first verification for each applicable Facility under this standard must be a staged test. | |

Auditor Notes:

Additional Information:



Reliability Standard

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

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

Regulatory Background

MOD-025-1 was originally submitted to FERC for approval in 2006 but was not included in the approval of the initial group of Mandatory Reliability Standards in [Order No. 693](http://www.nerc.com/pa/stand/project%20200902%20realtime%20reliability%20monitoring%20and/order_693.pdf). FERC directed NERC to submit additional information on generator gross and net reactive power capability and to modify the proposed Standard to require verification of reactive power capability at multiple points over a unit’s operating range.[[5]](#footnote-4)

MOD-025-2 responds to the directive in Order no. 693. MOD-025-2 was approved by FERC in [Order No. 796](http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order%20No.%20796%20Generator%20Verfication.pdf), issued March 20, 2014. MOD-025-2 merges existing Reliability Standards MOD-024-1 and MOD-025-1 into a single Reliability Standard.[[6]](#footnote-5)

Order No. 796

P 55 In approving MOD-025-2, FERC stated “The process for verifying reactive capability under MOD-025-2, Requirement 2.2, requires an entity to submit information to its transmission planner (either through Attachment 2 to MOD-025-2 or a form containing the same information) within 90 calendar days of either: (i) the date the data are recorded for a staged test; or (ii) the date the data are selected for verification using historical operational data. This requirement affords a generator owner or transmission owner with the flexibility to perform verification using either a staged test or historical operating data.”

Revision History for RSAW

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| --- | --- | --- | --- |
| **Version** | **Date** | **Reviewers** | **Revision Description** |
| 1 | 12/16/2014 | RSAW Task Force, NERC Compliance, CMFG, ECEMG | New Document |
| 2 | 5/22/2017 | NERC Compliance Assurance, RSAW Task Force | Corrected error in the footer |
|  |  |  |  |

1. 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. [↑](#footnote-ref-1)
2. Compliance Assessment Date(s): The date(s) the actual compliance assessment (on-site audit, off-site spot check, etc.) occurs. [↑](#footnote-ref-2)
3. Transmission Owner that owns synchronous condenser(s) [↑](#footnote-ref-3)
4. 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. [↑](#endnote-ref-1)
5. *Mandatory Reliability Standards for the Bulk‐Power System*, 118 FERC ¶ 61,218 at P1321 (March 16, 2007) (“Order No. 693”). [↑](#footnote-ref-4)
6. *Generator Verification Reliability Standards,* 146 FERC ¶61,213 at P55 (March 20, 2014) (“Order No. 796”). [↑](#footnote-ref-5)