

DRAFT Reliability Standard Audit Worksheet¹

MOD-033-1 – Stead-State and Dynamic System Model Validation

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)²: Month DD, YYYY, to Month DD, YYYY
Compliance Monitoring Method: Audit
Names of Auditors: Supplied by CEA

Applicability of Requirements *[RSAW developer to insert correct applicability]*

	BA	DP	GO	GOP	IA	LSE	PA	PSE	RC	RP	RSG	TO	TOP	TP	TSP
R1							X ³								
R2									X				X		

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.

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

³ This proposed standard combines “Planning Authority” with “Planning Coordinator” in the list of applicable functional entities. The NERC Functional Model lists “Planning Coordinator” while the registration criteria lists “Planning Authority,” and they are not yet synchronized. Until that occurs, the proposed standard applies to both Planning Authority and Planning Coordinator.

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Subject Matter Experts

Identify Subject Matter Expert(s) responsible for this Reliability Standard. (Insert additional rows if necessary)

Registered Entity Response (Required):

SME Name	Title	Organization	Requirement(s)

DRAFT

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R1 Supporting Evidence and Documentation

- R1.** Each Planning Coordinator shall implement a documented data validation process that includes the following attributes:
 - 1.1.** Comparison of the performance of the Planning Coordinator’s portion of the existing system in a planning power flow model to actual system behavior, represented by a state estimator case or other Real-time data sources, at least once every 24 calendar months through simulation;
 - 1.2.** Comparison of the performance of the Planning Coordinator’s portion of the existing system in a planning dynamic model to actual system response, through simulation of a dynamic local event, at least once every 24 calendar months. (Use a dynamic local event that occurs within 24 calendar months of the last dynamic local event used in comparison and complete each comparison within 24 calendar months of the dynamic local event). If no dynamic local event occurs within the 24 calendar months, use the next dynamic local event that occurs;
 - 1.3.** Guidelines the Planning Coordinator will use to determine unacceptable differences in performance under Part 1.1 or 1.2; and
 - 1.4.** Guidelines to resolve differences in performance identified under Part 1.3.
- M1.** Each Planning Coordinator shall provide evidence that it has a documented validation process according to Requirement R1 as well as evidence that demonstrates the implementation of the required components of the process.

Registered Entity Response to General Compliance with this Requirement (Required):

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

Evidence Requested⁴:

Provide the following evidence, or other evidence to demonstrate compliance. If the provisioning of this evidence is burdensome or otherwise unreasonable, contact your CEA to arrange for sampling or other means of reduction of the quantity of evidence submitted.
(R1) Documented data validation process that addresses Parts 1.1 through 1.4.
(Part 1.1) Comparisons of performance as outlined in Part 1.1 as requested by auditor.
(Part 1.2) Comparisons of performance as outlined in Part 1.2 as requested by auditor.
(Part 1.3) Evidence of analysis summarizing results of comparisons outlined in Parts 1.1 and 1.2 against established guidelines.
(Part 1.3) Evidence of implementation of actions to resolve differences in performance identified under Part 1.3 summarizing actions taken.

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.

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Registered Entity Evidence (Required):

<p>The following information is recommended for all evidence submitted: File Name, Document Title, Revision, Date, Page(s), Section(s), Section Title(s), Description Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.</p>

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

Compliance Assessment Approach Specific to MOD-033-1, R1

This section to be completed by the Compliance Enforcement Authority

	<p>The RSAW Developer will complete this section with a set of detailed steps for the audit process. See the RSAW Developer’s Guide for more information.</p>
	<p>(R1) Verify existence of a documented data validation process addressing parts 1.1 through 1.4.</p>
	<p>(Part 1.1) Review documented data validation process to verify it includes a provision for comparison of the existing system to actual system behavior per the requirements of Part 1.1 at least once every 24 calendar months. Review the entity’s comparison(s) to determine that it was executed in accordance with its data validation process document and that it occurred at least once every 24 months.</p>
	<p>(Part 1.2) Review documented data validation process to verify it includes a provision for dynamic comparison of the existing system to actual system behavior per the requirements of Part 1.2 at least once during the timeframe established in Part 1.2. Review the entity’s comparison(s) to determine that it was executed in accordance with its data validation process and that it occurred within the timeframe established in Part 1.2.</p>
	<p>(Part 1.3) Review documented data validation process to verify it includes guidelines to determine unacceptable differences in performance under Part 1.1 or 1.2. Review entity’s analyses to gain reasonable assurance that it was executed as described in its data validation process document.</p>
	<p>(Part 1.4) Review documented data validation process to verify it includes guidelines to resolve differences in performance identified under Part 1.3. Also, review the analyses outlined in Part 1.3 to ascertain whether differences in performance identified resulted in actions being taken to address the differences.</p>

Note to Auditor: Based on the language in the requirement and the purpose of the Standard, which is to implement a process to validate data, the auditor will verify that the documented process includes guideline discussions about how the entity will determine when, and under what circumstances, the performance comparisons conducted under Parts 1.1 and 1.2 result in “unacceptable differences.” Under part 1.3, an auditor will not assess the quality of the entity’s guideline of what constitutes an “unacceptable difference,” just that the validation process has been implemented and followed. Auditors will verify that any

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differences identified under part 1.3 were resolved per the entity's guidelines.

The extent of the Compliance Assessment Approach procedures described above to be applied will be based on the auditor's perceived risk of the entity and compliance with this requirement to the reliability of the Bulk Electric System. In cases where risk is lower, the auditor may simply review the most recent comparisons or analyses versus when risk is higher, the auditor may require multiple comparisons or analyses to gain comfort that data validation processes were implemented.

Auditor Notes:

R2 Supporting Evidence and Documentation

- R2.** Each Reliability Coordinator and Transmission Operator shall provide actual system behavior data (or a written response that it does not have the requested data) to any Planning Coordinator performing validation under Requirement R1 within 30 calendar days of a written request, such as, but not limited to, state estimator case or other Real-time data (including disturbance data recordings) necessary for actual system response validation.
- M2.** Each Reliability Coordinator and Transmission Operator shall provide evidence, such as email notices or postal receipts showing recipient and date that it has distributed the requested data or written response that it does not have the data, to any Planning Coordinator who has indicated a need for the data for validation purposes within 30 days of a written request in accordance with Requirement R2; or a statement by the Reliability Coordinator or Transmission Operator that it has not received notification regarding data necessary for validation by any Planning Coordinator.

Registered Entity Response to General Compliance with this Requirement (Required):

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

Evidence Requested⁵:

Provide the following evidence, or other evidence to demonstrate compliance. If the provisioning of this evidence is burdensome or otherwise unreasonable, contact your CEA to arrange for sampling or other means of reduction of the quantity of evidence submitted.

See M2.

⁵ 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.

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Registered Entity Evidence (Required):

The following information is recommended for all evidence submitted: File Name, Document Title, Revision, Date, Page(s), Section(s), Section Title(s), Description Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.

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

Compliance Assessment Approach Specific to MOD-033-1, R2

This section to be completed by the Compliance Enforcement Authority

	The RSAW Developer will complete this section with a set of detailed steps for the audit process. See the RSAW Developer’s Guide for more information.
	Review evidence (documented date of request and reply) to determine if entity responded to information request(s) as required in Requirement R2 within 30 days of receiving a written request from any Planning Coordinator.
Note to Auditor: Based on the auditors professional judgment, he or she may confirm with Planning Coordinators to determine if requests for data were made or simply confirm the existence of such requests with the entity under audit.	

Auditor Notes:

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Revision History

Version	Date	Reviewers	Revision Description
1	10/31/2013	NERC Compliance, Standards	New Document
2	1/8/2013	NERC Compliance, Standards	Changed language of Requirement 1 Part 1.2 to match new version of the Reliability Standard.