NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Project 2007-09 Generator Verification
MOD-024-1 DRAFT Mapping Document

MOD-024-1 Mapping to Proposed NERC Reliability Standard MOD-025-2		
Standard MOD-024-1 NERC Board Approved	**Comment**	**Proposed Standard MOD-025-2**
1. Number: MOD-024-1	Proposed standard will cover MOD-025-1 content and will include requirements from MOD-024-1.	**1. Number:** MOD-025-2
2. Title: Verification of Generator Gross and Net Real Power Capability.	Data Reporting has been added to reflect related requirements in the proposed Standard. Real has been added to include requirements from MOD-024-1.	**2. Title:** Verification and Data Reporting of Generator Real and Reactive Power Capability and Synchronous Condenser Reactive Power Capability.
3. Purpose: To ensure accurate information on generator gross and net Real Power capability is available for steady-state models used to assess Bulk Electric System reliability.	The Purpose has been modified to ensure that planning entities have accurate generator Real and Reactive Power capability data.	**3. Purpose:** To require applicable entities verify generator Real and Reactive Power capability and Synchronous Condenser Reactive Power Capability and to supply capability date to planning entities data for assessing Bulk Electric System (BES) reliability.

MOD-024-1 Mapping to Proposed NERC Reliability Standard MOD-025-2		
Standard MOD-024-1 NERC Board Approved	**Comment**	**Proposed Standard MOD-025-2**
4. Applicability: **4.1.** Regional Reliability Organization. **4.2.** Generation Owner.	Regional Reliability Organization applicability is eliminated and functional entity responsibility is defined. Facility Applicability has been added.	**4. Applicability:** **4.1 Functional entities** 4.1.1 Generator Owner 4.1.2 Transmission Owner with synchronous condenser **4.2 Facilities:** For the purpose of this standard, the term, "applicable Facility" shall mean any one of the following: 4.2.1 Individual generating unit greater than 20 MVA (gross nameplate rating) directly connected to the bulk power system. 4.2.2 Synchronous condenser greater than 20 MVA (gross nameplate rating) directly connected to the bulk power system. 4.2.3 Generating plant/Facility greater than 75 MVA (gross aggregate nameplate rating) directly connected to the bulk power system.
R1. The Regional Reliability	Regional applicability is	**Requirements R1, R2 and R3** defines the verification and data

MOD-024-1 Mapping to Proposed NERC Reliability Standard MOD-025-2		
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Organization shall establish and maintain procedures to address verification of generator gross and net Real Power capability. These procedures shall include the following:	eliminated and functional entity responsibility is defined. Verification, including reporting, is addressed throughout proposed Standard.	reporting previously addressed by regional procedures. These requirements are detailed in the following mapping.
R1.1. Generating unit exemption criteria including documentation of those units that are exempt from a portion or all of these procedures.	Exemption criteria are addressed by Section 4.2, Applicability**,** which follows the Registry Criteria.	**4.2 Facilities:** 4.2.1 For the purpose of this standard, the term, "applicable Facility" shall mean any one of the following: 4.2.1 Individual generating unit greater than 20 MVA (gross nameplate rating) directly connected to the bulk power system. 4.2.2 Synchronous condenser greater than 20 MVA (gross nameplate rating) directly connected to the bulk power system. 4.2.3 Generating plant/Facility greater than 75 MVA (gross aggregate nameplate rating) directly connected to the bulk power system.

MOD-024-1 Mapping to Proposed NERC Reliability Standard MOD-025-2		
Standard MOD-024-1 NERC Board Approved	**Comment**	**Proposed Standard MOD-025-2**
R1.2. Criteria for reporting generating unit auxiliary loads.	**Requirement R1** references **Attachment 1.** **Attachment 1**, Section 4 refers to Attachment 2, which is a reporting form or the basis for developing a more specialized form that provides all the auxiliary information required by the Standard.	R1. Each Generator Owner shall provide its Transmission Planner with verification of the Real Power capability of its applicable Facilities as follows: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 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 the date the data is recorded for a staged test or the date the data is selected for verification using historical operational data.
R1.3. Acceptable methods for model and data verification, including any applicable conditions under which the data should be verified. Such methods can include use of manufacturer data, commissioning data, performance tracking, and testing, etc.	**Requirement R1** references **Attachment 1.** Section 2 of **Attachment 1** prescribes the details of how the verification should be performed.	R1. Each Generator Owner shall provide its Transmission Planner with verification of the Real Power capability of its applicable Facilities as follows: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 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 the date the data is recorded for a staged test or

MOD-024-1 Mapping to Proposed NERC Reliability Standard MOD-025-2		
Standard MOD-024-1 NERC Board Approved	**Comment**	**Proposed Standard MOD-025-2**
		the date the data is selected for verification using historical operational data.
R1.4. Periodicity and schedule of model and data verification and reporting.	**Requirement R1 references Attachment 1.** Section 5 of **Attachment 1** details the periodicity.	R1. Each Generator Owner shall provide its Transmission Planner with verification of the Real Power capability of its applicable Facilities as follows: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 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 the date the data is recorded for a staged test or the date the data is selected for verification using historical operational data.
R1.5. Information to be verified and reported: **R1.5.1.** Seasonal gross and net Real Power generating capabilities. **R1.5.2.** Real Power requirements of auxiliary loads.	**Requirement R1** references **Attachment 1.** Section 3 of **Attachment 1** details the data to be recorded during the verification.	R1. Each Generator Owner shall provide its Transmission Planner with verification of the Real Power capability of its applicable Facilities as follows: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 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

MOD-024-1 Mapping to Proposed NERC Reliability Standard MOD-025-2		
Standard MOD-024-1 NERC Board Approved	**Comment**	**Proposed Standard MOD-025-2**
R1.5.3. Method of verification, including date and conditions.		containing the same information as identified in Attachment 2) to its Transmission Planner within 90 calendar 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.
R2. The Regional Reliability Organization shall provide its generator gross and net Real Power capability verification and reporting procedures, and any changes to those procedures, to the Generator Owners, Generator Operators, Transmission Operators, Planning Authorities, and Transmission Planners affected by the procedure within 30 calendar days of the approval.	Regional Reliability Organization applicability is eliminated and functional entity responsibility is defined in **R1**.	R1. Each Generator Owner shall provide its Transmission Planner with verification of the Real Power capability of its applicable Facilities as follows: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 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 the date the data is recorded for a staged test or the date the data is selected for verification using historical operational data.
R3. The Generator Owner shall follow its Regional Reliability Organization's procedures for verifying and reporting its Real Power generating capability per R1.	Regional Reliability Organization applicability is eliminated and functional entity responsibility is defined in **R1**.	R1. Each Generator Owner shall provide its Transmission Planner with verification of the Real Power capability of its applicable Facilities as follows: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 1.1. Verify the Real Power capability of its generating units

MOD-024-1 Mapping to Proposed NERC Reliability Standard MOD-025-2		
Standard MOD-024-1 NERC Board Approved	**Comment**	**Proposed Standard MOD-025-2**
		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 the date the data is recorded for a staged test or the date the data is selected for verification using historical operational data.