

Project 2007-09 Generator Verification Implementation Plan

Implementation Plan for MOD-027-1, Verification of Models and Data for Turbine/Governor and Load Control or Active Power/Frequency Control Functions

Approvals Requested

MOD-027-1 – Verification of Models and Data for Turbine/Governor and Load Control or Active Power/Frequency Control Functions

Prerequisite Approvals

None

Revisions to Approved Standards and Definitions

None

Compliance with the Standard

The following entities are responsible for being compliant with all requirements of MOD-027-1:

- Transmission Planner
- Generator Owner

- Facilities

For the purpose of this standard, the following Facilities are considered, “applicable units.” Units or plants with an average capacity¹ factor greater than 5% over the last three calendar years that meet the following:

Generating units connected to the Eastern or Quebec Interconnections with the following characteristics:

¹ Once a capacity factor exemption is declared by notifying the Transmission Planner, verification is not required for 10 calendar years from the date eligibility occurs. At the end of this 10 calendar year timeframe, the current average 3 year capacity factor (for years 8, 9, and 10) is examined to determine if the capacity factor exemption can be declared for the next 10 calendar year period. If not eligible for the capacity factor exemption, then model verification must be completed within one year of the date the capacity factor exemption expired with the 10 calendar year periodicity requirement reset based on the verification date.

- Each generating unit with a gross nameplate rating greater than or equal to 100 MVA, connected at the point of interconnection² at greater than or equal to 100 kV.
- For each plant with a gross aggregate nameplate rating greater than or equal to 100 MVA, connected at the same point of interconnection at greater than or equal to 100 kV:
 - Each unit with a gross nameplate rating greater than or equal to 20 MVA; and
 - The remainder of the plant as an aggregate.

Generating units connected to the Western Interconnection with the following characteristics:

- Each generating unit with a gross nameplate rating greater than or equal to 75 MVA, connected at the point of interconnection² at greater than or equal to 100 kV.
- For each plant with a gross aggregate nameplate rating greater than or equal to 75 MVA, connected at the same point of interconnection with at greater than or equal to 100 kV:
 - Each unit with a gross nameplate greater than or equal to 20 MVA; and
 - The remainder of the plant as an aggregate.

Generating units connected to the ERCOT Interconnection with the following characteristics:

- Each generating unit with a gross nameplate rating of greater than or equal to 50 MVA, connected at the point of interconnection² with rating greater than or equal to 100 kV.
- For each plant with a gross aggregate nameplate rating of greater than or equal to 75 MVA, connected at the same point of interconnection at greater than or equal to 100 kV:
 - Each unit with a gross nameplate greater than or equal to 20 MVA; and
 - The remainder of the plant as an aggregate.

Effective Date

In those jurisdictions where regulatory approval is required:

² The common transmission bus voltage level at which the generator step up transformer is connected.

By the first day of the first calendar quarter, three years following applicable regulatory approval:

- At least 25% of each Generator Owner's applicable units per Interconnection on an MVA basis compliant with Requirement R2.
- 100% compliant with Requirements R1, and R3 through R5.

By the first day of the first calendar quarter, five years following applicable regulatory approval:

- At least 50% of each Generator Owner's applicable units per Interconnection on an MVA basis compliant with Requirement R2.

By the first day of the first calendar quarter, seven years following applicable regulatory approval:

- At least 75% of each Generator Owner's applicable units per Interconnection on an MVA basis compliant with Requirement R2.

By the first day of the first calendar quarter, nine years following applicable regulatory approval:

- 100% of each Generator Owner's applicable units compliant with Requirement R2.

In those jurisdictions where no regulatory approval is required:

By the first day of the first calendar quarter, three years following Board of Trustees adoption:

- At least 25% of each Generator Owner's applicable units per Interconnection on an MVA basis compliant with Requirement R2.
- 100% compliant with Requirements R1, and R3 through R5.

By the first day of the first calendar quarter, five years following Board of Trustees adoption:

- At least 50% of each Generator Owner's applicable units per Interconnection on an MVA basis compliant with Requirement R2.

By the first day of the first calendar quarter, seven years following Board of Trustees adoption:

- At least 75% of each Generator Owner's applicable units per Interconnection on an MVA basis compliant with Requirement R2.

By the first day of the first calendar quarter, nine years following Board of Trustees adoption:

- 100% of each Generator Owner's applicable units compliant with Requirement R2.

Justification

This phased implementation supports the ten year cycle for the collection of generator response data necessary for required verifications and typical generating unit outage schedules, and it also provides ample time for Generator Owners to either purchase new recording equipment as required or to make necessary modifications to existing recording equipment (frequency triggers, length of recordings for frequency excursions, additional event storage capacity, etc).