

October 12, 2018

VIA ELECTRONIC FILING

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

RE: Revision to Implementation Plans for Reliability Standards MOD-026-1 and MOD-027-1; Docket No. RM13-16-000

Dear Secretary Bose:

The North American Electric Reliability Corporation (“NERC”) submits for approval the attached revision to the Implementation Plans for Reliability Standards MOD-026-1 (Verification of Models and Data for Generator Excitation Control System or Plant Volt/Var Control Functions) and MOD-027-1 (Verification of Models and Data for Turbine/Governor and Load Control or Active Power/Frequency Control Functions), which were approved by the Federal Energy Regulatory Commission (“Commission”) in Order No. 796.¹ It has come to NERC’s attention that the Implementations Plans for both MOD-026 and MOD-027 erroneously reference “verification date” instead of “transmittal date” to set the periodicity for reverification under each standard.

Attachment 1 of Reliability Standards MOD-026-1 and MOD-027-1 use “transmittal date” to set the periodicity for verifications under each standard. The proposed revision to the Implementation Plans is to ensure that the language in the Implementation Plans is consistent with the language in the Reliability Standards. NERC’s standard drafting team for Reliability Standards MOD-026-1 and MOD-027-1 intended to use the term “transmittal date” in the Implementation Plans to allow entities to use a single date for measuring periodicity rather than multiple dates for cases when verifications under the two standards are performed days, weeks, or months from the other for an applicable unit. As such, the proposed revision to the Implementation Plans replaces “verification date” with “transmittal date”, consistent with the language in the standards. Clean and redline versions of the revised MOD-026-1 and MOD-027-1 Implementation Plans are provided as **Exhibits A-B** hereto.

¹ Order No. 796, *Generator Verification Reliability Standards*, 79 Fed. Reg. 17,011 (2014) (to be codified at 18 C.F.R. pt. 40).

For the reasons set forth above, NERC respectfully requests that the Commission approve the proposed errata to the MOD-026-1 and MOD-027-1 Implementation Plans.

Respectfully submitted,

/s/ Shamai Elstein
Shamai Elstein
Senior Counsel
North American Electric Reliability
Corporation
1325 G St., NW, Suite 600
Washington, DC 20005
(202) 400-3009
(202) 644-8099 – facsimile
shamai.elstein@nerc.net

cc: Official service list in Docket No. RM13-16-000

CERTIFICATE OF SERVICE

I hereby certify that I have served a copy of the foregoing document upon all parties listed on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 12th day of October, 2018.

/s/ Courtney Baughan

Courtney Baughan
*Senior Legal Assistant for the
North American Electric Reliability
Corporation*

Exhibit A

MOD-026-1 Implementation Plan

Exhibit A

MOD-026-1 Implementation Plan - Clean Version

Implementation Plan

Project 2007-09 Generator Verification

Implementation Plan for MOD-026-1, Verification of Models and Data for Generator Excitation Control System or Plant Volt/Var Control Functions

Approvals Required

MOD-026-1, Verification of Models and Data for Generator Excitation Control System or Plant Volt/Var Control Functions

Prerequisite Approvals

None

Revisions to Glossary Terms

None

Applicable Entities

Generator Owner
Transmission Planner

For the purpose of this standard, the following Facilities are considered, “applicable units.”

Units or plants that meet the following:

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

- Individual generating unit greater than 100 MVA (gross nameplate rating) directly connected to the Bulk Electric System.
- Each generating plant consisting of multiple units that are directly connected to the Bulk Electric System at a common bus with total generation greater than 100 MVA (gross aggregate rating).

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

- Individual generating unit greater than 75 MVA (gross nameplate rating) directly connected to the Bulk Electric System.

- Each generating plant consisting of multiple units that are directly connected to the Bulk Electric System at a common bus with total generation greater than 75 MVA (gross aggregate rating).

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

- Individual generating unit greater than 50 MVA (gross nameplate rating) directly connected to the Bulk Electric System.
- Each generating plant / Facility consisting of multiple units that are connected to the Bulk Electric System at a common bus with total generation greater than 75 MVA (gross aggregate rating).

For all Interconnections:

- Any technically justified¹ unit that meets NERC registry criteria and is requested by the Transmission Planner.

Conforming Changes to Other Standards

None

Effective Dates

In those jurisdictions where regulatory approval is required:

- Each responsible entity shall ensure compliance with Requirements R1, and R3 through R6 By the first day of the first calendar quarter following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure at least 30 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, four years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure at least 50 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, six years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure 100 percent of its applicable unit gross MVA are compliant with Requirement R2 By the first day of the first calendar quarter, 10 years

¹ Technical justification is achieved by demonstrating that the simulated unit or plant response does not match the measured unit or plant response.

following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

In those jurisdictions where no regulatory approval is required:

- Each responsible entity shall ensure compliance with Requirements R1, and R3 through R6 by the first day of the first calendar quarter following Board of Trustees adoption.
- Each Generator Owner shall ensure at least 30 percent of its applicable unit gross MVA per Interconnection is compliant with Requirement R2 by the first day of the first calendar quarter, four years following Board of Trustees adoption.
- Each Generator Owner shall ensure at least 50 percent of its applicable unit gross MVA per Interconnection is compliant with Requirement R2 By the first day of the first calendar quarter, six years following Board of Trustees adoption.
- Each Generator Owner shall ensure 100 percent of its applicable unit gross MVA is compliant with Requirement R2 By the first day of the first calendar quarter, 10 years following Board of Trustees adoption.

Consideration for Early Compliance

Existing excitation control system and plant volt/var control model verification is sufficient for demonstrating compliance for a 10 year period from the actual transmittal date if either of the following applies:

- The Generator Owner has a verified model that is compliant with the applicable regional entity policies, guidelines or criteria existing at the time of model verification, or
- The Generator Owner has an existing verified model that is compliant with the requirements of this standard.

Justification

This phased implementation supports the 10 year cycle for the collection of generator response data necessary for required verifications and typical generating unit outage schedules.

When a Generator Owner has verified its Excitation Control System and Plant Volt/Var Control model(s) in compliance with its regional entity requirements 10 years or less prior to the approval date of this Standard, these verifications are deemed sufficient for demonstrating compliance with this Standard for a ten year period from the date of the aforementioned transmittal.

Retirements

None

Exhibit A

MOD-026-1 Implementation Plan - Redlined Version

Implementation Plan

Project 2007-09 Generator Verification

Implementation Plan for MOD-026-1, Verification of Models and Data for Generator Excitation Control System or Plant Volt/Var Control Functions

Approvals Required

MOD-026-1, Verification of Models and Data for Generator Excitation Control System or Plant Volt/Var Control Functions

Prerequisite Approvals

None

Revisions to Glossary Terms

None

Applicable Entities

Generator Owner

Transmission Planner

For the purpose of this standard, the following Facilities are considered, “applicable units.”

Units or plants that meet the following:

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

- Individual generating unit greater than 100 MVA (gross nameplate rating) directly connected to the Bulk Electric System.
- Each generating plant consisting of multiple units that are directly connected to the Bulk Electric System at a common bus with total generation greater than 100 MVA (gross aggregate rating).

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

- Individual generating unit greater than 75 MVA (gross nameplate rating) directly connected to the Bulk Electric System.

- Each generating plant consisting of multiple units that are directly connected to the Bulk Electric System at a common bus with total generation greater than -75 MVA (gross aggregate rating).

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

- Individual generating unit greater than 50 MVA (gross nameplate rating) directly connected to the Bulk Electric System.
- Each generating plant / Facility consisting of multiple units that are connected to the Bulk Electric System at a common bus with total generation greater than -75 MVA (gross aggregate rating).

For all Interconnections:

- Any technically justified¹ unit that meets NERC registry criteria and is requested by the Transmission Planner.

Conforming Changes to Other Standards

None

Effective Dates

In those jurisdictions where regulatory approval is required:

- Each responsible entity shall ensure compliance with Requirements R1, and R3 through R6 By the first day of the first calendar quarter following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure at least 30 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, four years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure at least 50 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, six years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure 100 percent of its applicable unit gross MVA are compliant with Requirement R2 By the first day of the first calendar quarter, 10 years

¹ Technical justification is achieved by demonstrating that the simulated unit or plant response does not match the measured unit or plant response.

following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

In those jurisdictions where no regulatory approval is required:

- Each responsible entity shall ensure compliance with Requirements R1, and R3 through R6 by the first day of the first calendar quarter following Board of Trustees adoption.
- Each Generator Owner shall ensure at least 30 percent of its applicable unit gross MVA per Interconnection is compliant with Requirement R2 by the first day of the first calendar quarter, four years following Board of Trustees adoption.
- Each Generator Owner shall ensure at least 50 percent of its applicable unit gross MVA per Interconnection is compliant with Requirement R2 By the first day of the first calendar quarter, six years following Board of Trustees adoption.
- Each Generator Owner shall ensure 100 percent of its applicable unit gross MVA is compliant with Requirement R2 By the first day of the first calendar quarter, 10 years following Board of Trustees adoption.

Consideration for Early Compliance

Existing excitation control system and plant volt/var control model verification is sufficient for demonstrating compliance for a 10 year period from the actual verification-transmittal date if either of the following applies:

- The Generator Owner has a verified model that is compliant with the applicable regional entity policies, guidelines or criteria existing at the time of model verification, or
- The Generator Owner has an existing verified model that is compliant with the requirements of this standard.

Justification

This phased implementation supports the 10 year cycle for the collection of generator response data necessary for required verifications and typical generating unit outage schedules.

When a Generator Owner has verified its Excitation Control System and Plant Volt/Var Control model(s) in compliance with its regional entity requirements 10 years or less prior to the approval date of this Standard, these verifications are deemed sufficient for demonstrating compliance with this Standard for a ten year period from the date of the aforementioned verification-transmittal.

Retirements

None

Exhibit B

MOD-027-1 Implementation Plan

Exhibit B

MOD-027-1 Implementation Plan - Clean Version

Implementation Plan

Project 2007-09 Generator Verification

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

Approvals Required

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 Glossary Terms

None

Applicable Entities

Generator Owner
Transmission Planner

For the purpose of this standard, the following Facilities are considered, “applicable units.” Units or plants that meet the following:

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

- Individual generating unit greater than 100 MVA (gross nameplate rating) directly connected to the Bulk Electric System.
- Each generating plant or generating Facility consisting of multiple units that are connected to the Bulk Electric System at a common bus with total generation greater than 100 MVA (gross aggregate rating).

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

- Individual generating unit greater than 75 MVA (gross nameplate rating) directly connected to the Bulk Electric System.

- Each generating plant or generating Facility consisting of multiple units that are connected to the Bulk Electric System at a common bus with total generation greater than 75 MVA (gross aggregate rating).

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

- Individual generating unit greater than 50 MVA (gross nameplate rating) directly connected to the Bulk Electric System.
- Each generating plant or generating Facility consisting of multiple units that are connected to the Bulk Electric System at a common bus with total generation greater than 75 MVA (gross aggregate rating).

Conforming Changes to Other Standards

None

Effective Dates

In those jurisdictions where regulatory approval is required:

- Each responsible entity shall ensure compliance with Requirements R1, and R3 through R5 by the first day of the first calendar quarter following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure at least 30 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, four years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure at least 50 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, six years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure at least 100 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, 10 years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

In those jurisdictions where no regulatory approval is required:

- Each responsible entity shall ensure compliance with Requirements R1, and R3 through R5 by the first day of the first calendar quarter following Board of Trustees adoption.

- Each Generator Owner shall ensure at least 30 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, four years following Board of Trustees adoption.
- Each Generator Owner shall ensure at least 50 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, six years following Board of Trustees adoption.
- Each Generator Owner shall ensure at least 100 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, 10 years following Board of Trustees adoption.

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).

Consideration for Early Compliance

Existing turbine/governor and load control or active power/frequency control model verification is sufficient for demonstrating compliance for a ten year period from the actual transmittal date if either of the following applies:

- The Generator Owner has a verified model that is compliant with the applicable regional entity policies, guidelines or criteria existing at the time of model verification.
- The Generator Owner has an existing verified model that is compliant with the requirements of this standard.

Retirements

None

Exhibit B

MOD-027-1 Implementation Plan - Redlined Version

Implementation Plan

Project 2007-09 Generator Verification

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

Approvals Required

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 Glossary Terms

None

Applicable Entities

Generator Owner
Transmission Planner

For the purpose of this standard, the following Facilities are considered, “applicable units.” Units or plants that meet the following:

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

- Individual generating unit greater than 100 MVA (gross nameplate rating) directly connected to the Bulk Electric System.
- Each generating plant or generating Facility consisting of multiple units that are connected to the Bulk Electric System at a common bus with total generation greater than 100 MVA (gross aggregate rating).

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

- Individual generating unit greater than 75 MVA (gross nameplate rating) directly connected to the Bulk Electric System.

- Each generating plant or generating Facility consisting of multiple units that are connected to the Bulk Electric System at a common bus with total generation greater than 75 MVA (gross aggregate rating).

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

- Individual generating unit greater than 50 MVA (gross nameplate rating) directly connected to the Bulk Electric System.
- Each generating plant or generating Facility consisting of multiple units that are connected to the Bulk Electric System at a common bus with total generation greater than 75 MVA (gross aggregate rating).

Conforming Changes to Other Standards

None

Effective Dates

In those jurisdictions where regulatory approval is required:

- Each responsible entity shall ensure compliance with Requirements R1, and R3 through R5 by the first day of the first calendar quarter following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure at least 30 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, four years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure at least 50 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, six years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
- Each Generator Owner shall ensure at least 100 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, 10 years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

In those jurisdictions where no regulatory approval is required:

- Each responsible entity shall ensure compliance with Requirements R1, and R3 through R5 by the first day of the first calendar quarter following Board of Trustees adoption.

- Each Generator Owner shall ensure at least 30 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, four years following Board of Trustees adoption.
- Each Generator Owner shall ensure at least 50 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, six years following Board of Trustees adoption.
- Each Generator Owner shall ensure at least 100 percent of its applicable unit gross MVA per Interconnection are compliant with Requirement R2 by the first day of the first calendar quarter, 10 years following Board of Trustees adoption.

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).

Consideration for Early Compliance

Existing turbine/governor and load control or active power/frequency control model verification is sufficient for demonstrating compliance for a ten year period from the actual ~~verification~~ transmittal date if either of the following applies:

- The Generator Owner has a verified model that is compliant with the applicable regional entity policies, guidelines or criteria existing at the time of model verification.
- The Generator Owner has an existing verified model that is compliant with the requirements of this standard.

Retirements

None