Unofficial Comment Form

Project 2021-01 System Model Validation with IBRs

**Do not** use this form for submitting comments. Use the [Standards Balloting and Commenting System (SBS)](https://sbs.nerc.net/) to submit comments ondraft one of **MOD-033-3 Steady-State and Dynamic System Model Validation** by **8 p.m. Eastern, Wednesday, May 21, 2025.**  
**m. Eastern, Thursday, August 20, 2015**

Additional information is available on the [project page](https://www.nerc.com/pa/Stand/Pages/Project_2021-01_Modifications_to_MOD-025_and_PRC-019.aspx). If you have questions, contact Manager, Standards Development, [Sandhya Madan](mailto:sandhya.madan@nerc.net) (email), or at 470-698-8827.

## Background Information

The drafting team (DT) for Project 2021-01 System Model Validation with IBRs is charged with addressing directives from FERC Order No. 901 that deal with system model validation. After reviewing the applicable directives and Reliability Standard MOD-033-2 Steady-State and Dynamic System Model Validation, the DT has determined that no substantive changes are needed. The DT posits that: (1) any system model is essentially an assembly of several component models representing the Bulk Power System (BPS) equipment installed within a given footprint of the interconnected transmission system, and (2) the methodology and process of performing system model validation is inherently agnostic towards the technology of the BPS equipment represented by the component model. Therefore, the component model for a generating facility regardless of whether it represents a synchronous machine or an inverter-based resource (IBR) technology will be validated in a system model no differently than how any other component model (such as for substation equipment and/or bus load) is validated.

While the DT contends there are no substantive modifications necessary to MOD-033, there are opportunities to improve the clarity of both the requirements and measures of the standard. As such, the proposed draft standard MOD-033-3 includes the following enhancements:

Requirement R1 – clarified by including (1) the proposed new glossary term “Model Validation” (see [Project 2020-06](https://www.nerc.com/pa/Stand/Pages/Project-2020_06-Verifications-of-Models-and-Data-for-Generators.aspxf)) and (2) the overarching concept of “[Planning Coordinator’s] portion of the existing system” in the main body of the requirement (because it is applicable to Parts 1.1 – 1.4, not just Parts 1.1 and 1.2).

Requirement R1, Part 1.1 – clarified that steady-state system model validation is accomplished by comparing the power flow simulation (results) to actual system behavior, thus aligning the requirement with the definition of Model Validation.

Requirement R1, Part 1.2 – clarified that dynamic system model validation is accomplished by comparing the dynamic local event simulation (results) to actual system behavior, thus aligning the requirement with the definition of Model Validation.

Requirement R1, Part 1.3 – eliminated redundancy and corrected its applicability to Parts 1.1 and 1.2 by replacing “or” with “and” because the “unacceptable differences in performance” criteria are needed for both steady state and dynamic model validation.

Requirement R2 – reduced verbosity thus improving clarity.

Measures M1 and M2 – revised to conform with recommended verbiage and style for Measures.

VSLs – revised to conform with updated Requirements.

Technical Rationale – revised to conform with updated Requirements and placed in a separate document.

**Questions**

1. Do you agree with the DT’s assessment that no substantive changes are needed to MOD-033 to address Order 901 directives regarding system model validation. If not, please provide your reasoning and suggested revisions.

Yes

No

Comments:

2. Do you agree with the changes made to Requirement R1? If not, please provide the basis for your disagreement and any proposed revisions.

Yes

No

Comments:

3. Do you agree with the changes made to Requirement R2? If not, please provide the basis for your disagreement and any proposed revisions.

Yes

No

Comments:

4. Do you agree with the changes made to Measure M1? If not, please provide the basis for your disagreement and any proposed revisions.

Yes

No

Comments:

5. Do you agree with the changes made to Measure M2? If not, please provide the basis for your disagreement and any proposed revisions.

Yes

No

Comments:

6. Do you agree with the changes made to the VSLs? If not, please provide the basis for your disagreement and any proposed revisions.

Yes

No

Comments:

7. Do you agree with the changes made to the Technical Rationale? If not, please provide the basis for your disagreement and any proposed revisions.

Yes

No

Comments:

8. Do you agree with the proposed Implementation Plan? If not, please provide the basis for your disagreement and your proposed revisions.

Yes

No

Comments:

9. Do you agree that MOD-033-3 is cost effective to address the Directives in the FERC Order? If you do not agree, or if you agree but have suggestions for improvement to enable more cost-effective approaches, please provide your recommendation and, if appropriate, technical, or procedural justification.

Yes

No

Comments:

10. Please provide any additional comments for the drafting team to consider, if desired.

Comments: