

MOD B Project

Associated Directives

The “MOD B” initiative focuses on closing out Directives from FERC Order 693 and Order 890 with regard to modeling data, and also seeks to incorporate the suggestions from the NERC PC Systems Analysis and Modeling Subcommittee whitepaper suggestions.

The standards involved are:

- MOD-010-0 – Steady State Data for Modeling and Simulation of the Interconnection Transmission System
- MOD-011-0 – Maintenance and Distribution of Steady-State Data Requirement and Reporting Procedures
- MOD-012-0 – Dynamics Data for Modeling and Simulation of the Interconnection Transmission System
- MOD-013-1 – Maintenance and Distribution of Dynamics Data and Reporting Procedures
- MOD-014-0 – Development of Steady-State System Models
- MOD-015-0.1 – Development of Dynamic Systems Models

For further reference, a table with each standard and their applicable highlighted Directives are attached for your review. For your convenience the directive language has been highlighted.

ALL MODs (-010 through -025)

FERC Order 890, paragraph 290. **The Commission directs public utilities, working through NERC, to modify the reliability standards MOD-010 through MOD-025 to incorporate a requirement for the periodic review and modification of models for (1) load flow base cases with contingency, subsystem, and monitoring files, (2) short circuit data, and (3) transient and dynamic stability simulation data, in order to ensure that they are up to date.** This means that the models should be updated and benchmarked to actual events. We find that this requirement is essential in order to have an accurate simulation of the performance of the grid and from which to comparably calculate ATC, therefore increasing transparency and decreasing the potential for undue discrimination by transmission providers.

MOD-010

FERC Order 693, paragraph 1148. Supported by many commenters, we adopt the NOPR proposal to **direct the ERO to modify MOD-010-0 to require filing of all of the contingencies that are used in performing steady-state system operation and planning studies.** We believe that access to such information will enable planners to accurately study the effects of contingencies occurring in neighboring systems on their own systems, which will benefit reliability. Because of the lack of information on contingency outages and the automatic actions that result from

these contingencies, planners have not been able to analyze neighboring conditions accurately, thereby potentially jeopardizing reliability on their own and surrounding systems. This requirement will make transmission planning data more transparent, consistent with Order No. 890 requiring greater openness of the transmission planning process.

FERC Order 693, paragraph 1152. Consistent with California Cogeneration, Northern Indiana and MidAmerican's concerns, we determine that those data that a company considers confidential, commercially-sensitive or security-sensitive should be released in accordance with the CEII process or subject to confidentiality agreements. **We direct the ERO to address confidentiality issues and modify the Reliability Standard as necessary through its Reliability Standards development process.**

FERC Order 693, paragraph 1154. We agree with APPA, SoCal Edison and TVA that the functional entity responsible for providing the list of contingencies in performing planning studies should be the transmission planner, instead of the transmission owner, as proposed in the NOPR. We also agree with APPA that the transmission operator should be one of the entities required to list contingencies used to perform operational studies. Transmission operators are usually responsible for compiling the operational contingency lists for both normal and conservative operation. **Therefore, we direct the ERO to modify MOD-010-0 to include transmission operators as an applicable entity.**

FERC Order 693, paragraph 1155. **We adopt our NOPR proposal that the planning authority should be included in this Reliability Standard because the planning authority is the entity responsible for the coordination and integration of transmission facilities and resource plans, as well as one of the entities responsible for the integrity and consistency of the data.** We disagree with APPA that it is duplicative and unnecessary to require the planning authority to provide all of this information. However, we direct the ERO, as the entity charged with developing Reliability Standards, to address all of these concerns and to develop a consensus standard using its Reliability Standard development process

MOD-011

FERC Order 693, paragraph 1162. We reiterate our position stated in the NOPR that the planning authority should be included in this Reliability Standard because the planning authority is the entity responsible for the coordination and integration of transmission facilities and resource planning, as well as one of the entities responsible for the integrity and consistency of the data. **Therefore, we direct the ERO to add the planning authority to the applicability section of this Reliability Standard.**

MOD-012

FERC Order 693, paragraph 1178. Supported by several commenters, we **adopt the NOPR proposal and direct the ERO to modify MOD-012-0 by adding a new requirement to provide a list of the faults and disturbances used in performing dynamics system studies for system operation and planning.** We believe that access to such information will enable planners to accurately study the effects of disturbances occurring in neighboring systems on their own systems, which will benefit reliability. This requirement will also make transmission planning data more transparent, consistent with Order No. 890, which calls for greater openness of the transmission planning process on a regional basis.

FERC Order 693, paragraph 1181. Consistent with California Cogeneration, Northern Indiana and MidAmerican's concerns, we determine that the data that a company considers confidential, marketsensitive or security-sensitive should be released in accordance with the CEII process or subject to confidentiality agreements. **We direct the ERO to address confidentiality issues and modify the standard as necessary through its Reliability Standards development process.**

FERC Order 693, paragraph 1183. We agree with APPA that the functional entity responsible for providing the fault and disturbance list should be the transmission planner, instead of the transmission owner, as proposed in the NOPR. We also agree with APPA that the transmission operator should be added to the list of applicable entities in the Reliability Standards development process. **Therefore, we direct the ERO to modify MOD-012-0 to require the transmission planner to provide fault and disturbance lists.**

FERC Order 693, paragraph 1184. We adopt our NOPR proposal that planning authorities should be included in this Reliability Standard because the planning authority is the entity responsible for the coordination and integration of transmission facilities and resource plans, as well as one of the entities responsible for the integrity and consistency of the data. **We therefore direct the ERO to add the planning authority to the list of applicable entities.**

MOD-013

FERC Order 693, paragraph 1197. **We agree with many commenters and direct the ERO to modify the Reliability Standard to permit entities to estimate dynamics data if they are unable to obtain unit specific data for any reason, not just for units constructed prior to 1990.** Achieving the most accurate possible picture of the dynamic behavior of the Interconnection requires the use of actual data. We disagree with FirstEnergy and EEI and reject the 1990 cut-off date, because the age of the unit alone may not be the only reason why unit-specific data is unavailable. We agree with the Small Entities Forum that the Reliability Standard should include Requirements that such estimates be based on sound engineering principles and be subject to technical review and approval of any estimates at the regional level. That said, **the Commission directs that this Reliability Standard be modified to require that the results of these dynamics models be compared with actual disturbance data to verify the accuracy of the models.**

FERC Order 693, paragraph 1199. **We adopt our NOPR proposal and direct the ERO to expand the applicability section in this Reliability Standard to include planning authorities because they are the entities responsible for the coordination and integration of transmission facilities and resource plans, as well as one of the entities responsible for the integrity and consistency of the data.**

MOD-014

FERC Order 693, paragraph 1210. We maintain our position set forth in the NOPR that analysis of the Interconnection system behavior requires the use of accurate steady-state models. **Therefore, we direct the ERO to modify the Reliability Standard to include a requirement that the models be validated against actual system responses.** We understand that NERC is incorporating recommendations from the Blackout Report and developing models for the Eastern Interconnection.

FERC Order 693, paragraph 1211. Further, the maximum discrepancy between the model results and the actual system response should be specified in the Reliability Standard. The Commission believes that the maximum discrepancy between the actual system performance and the model should be small enough that decisions made by planning entities based on output from the model would be consistent with the decisions of operating entities based on actual system response. **We direct the ERO to modify MOD-014-0 through the Reliability Standards development process to require that actual system events be simulated and if the model output is not within the accuracy required, the model shall be modified to achieve the necessary accuracy.**

MOD-015

FERC Order 693, paragraph 1220. We maintain our position set forth in the NOPR that the analysis of Interconnection system behavior requires the use of accurate dynamics system models. Therefore, we direct the ERO to modify the Reliability Standard to include a requirement that the models be validated against actual system responses. We agree with EEI and NRC and confirm our position that a requirement to verify that dynamics system models are accurate should be a part of this Reliability Standard. We agree with EEI that this new requirement should be related to using the models to replicate events that occur on the system instead of developing separate testing procedures to verify the models. **We direct the ERO to modify the standard to require actual system events be simulated and dynamics system model output be validated against actual system responses.**