NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Load Modeling Working Group (LMWG) Scope

Purpose

The purpose of the LMWG is to drive the advancement and utilization of dynamic load modeling on an interconnection-wide basis. The LMWG will report to the Reliability and Security Technical Committee (RSTC) and will address current issues related to available dynamic load models, develop load model data sets and guidelines for load modeling practices, and provide guidance on future developments of dynamic load modeling capability across North America.

Activities

The LMWG will support the development and deployment of dynamic load models and modeling practices, and provide a forum for increased industry engagement related to load modeling. Activities will seek to improve the deployment of the current state of the art in dynamic load models for better planning, operation, and improved reliability of the North American electric power system. This includes the following tasks:

1. Formulate and guide the NERC vision and activities to promote the advancement and utilization of dynamic load models and modeling practices.
2. Establish guidelines and technical reference documents related to dynamic load modeling practices, including explanations of existing dynamic load models and their structure, data sets, and parameter derivation.
3. Serve as the industry focal point and open forum for discussing dynamic load modeling practices for system planning and operations studies. Provide industry guidance and support to entities seeking direction on dynamic load modeling across North America.
4. Work with software vendors to ensure uniform and accurate implementation of existing and future models, including benchmarking efforts across software platforms.
5. Work with industry modeling experts and researchers on developing the next generation of dynamic load models and modeling improvements, including behind-the-meter distributed generation.
6. Provide data and analysis of major system events where dynamic load modeling plays a critical role, including oscillatory or voltage stability events including Fault Induced Delayed Voltage Recovery (FIDVR). This includes coordination with other NERC groups including the Event Analysis Subcommittee (EAS).
7. Provide guidance and input on relevant NERC standards related to dynamic load modeling and transient system response, including but not limited to transient voltage response criteria.
8. Develop, as necessary, procedures and guidelines for baselining power system performance analysis for transient voltage response and dynamic load modeling.
9. Review and coordinate proposed new dynamic load modeling efforts with any appropriate NERC committees to support coordinated advancement of load modeling practices to assure effectiveness and to limit duplication of efforts.

10. Coordinate with industry organizations focusing on related topics, including WECC Modeling & Validation Work Group (WECC MVWG), WECC Load Modeling Working Group (WECC LMWG), North American Transmission Forum (NATF), and IEEE.

Deliverables

The LMWG will develop guidelines and technical reports, support develop of new or updated models, and recommendations to the RSTC:

1. The current state of dynamic load modeling – available models and modeling practices
2. Facilitate inclusion of improved models in industry-accepted software programs
3. Guidelines on the use of dynamic load models
4. "Default" data sets for various locations across the interconnection
5. System study lessons learned and findings
6. Educational materials such as tutorials and webinars for Transmission Planners and modelers
7. Load model data management tools and practices
8. Consolidated vision on grid requirements for end-use loads
9. Technical assessments of power system reliability utilizing dynamic load models
10. Other topics as prioritized by the RSTC.

Membership

The LMWG will generally follow the organizational structure defined by the RSTC, with the following additions:

- Non RSTC organizations' employees who are industry experts, software vendors, or manufacturing subject matter experts, as necessary for the work at hand.

A NERC staff member will be assigned as the Working Group Coordinator. The Working Group chair is selected by the Working Group for a two-year term or the conclusion of the Working Group, whichever comes first. The LMWG vice chair should be available to succeed the chair.

Reporting

The LMWG administratively reports to the RSTC.

Meetings

Four open in-person or WebEx meetings per year (or as needed), with supplemental conference calls based on workload.