

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

LMWG Work Plan

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RELIABILITY | RESILIENCE | SECURITY



LMWG Strategy for Emerging Loads Electric Vehicles, Data Centers and Heat Pumps 2023-2025

Phase 1: Electric Vehicles

- EV Reliability Studies/ 4th Quarter 2024
- EV Phase 2 Technical Reference Document/4th Quarter 2024

With available EV models and data, perform reliability studies that provide a Technical Reference for modeling EVs.

Phase 2: Refine EV Chargers Models

- Assess Possible Refinements to EV Charger Models/3rd Quarter 2024
- Explore NERC Role in Acquisition of EV Charger Test Data
- EV Charger Modeling Progress Report/4th Quarter 2024

Phase 2: Data Centers

- Assess Possible Refinements to Data Center Modeling Data /3rd Quarter 2024
- Explore NERC Role in Acquisition of Large Load Data Focusing on Center Data /4th Quarter 2024
- Consider a SAR for Registering Large Loads for the purpose of Data collection and modeling/4th Quarter 2024
- Data Center Load Modeling Progress Report/4th Quarter 2024

Phase 3: Heat Pumps

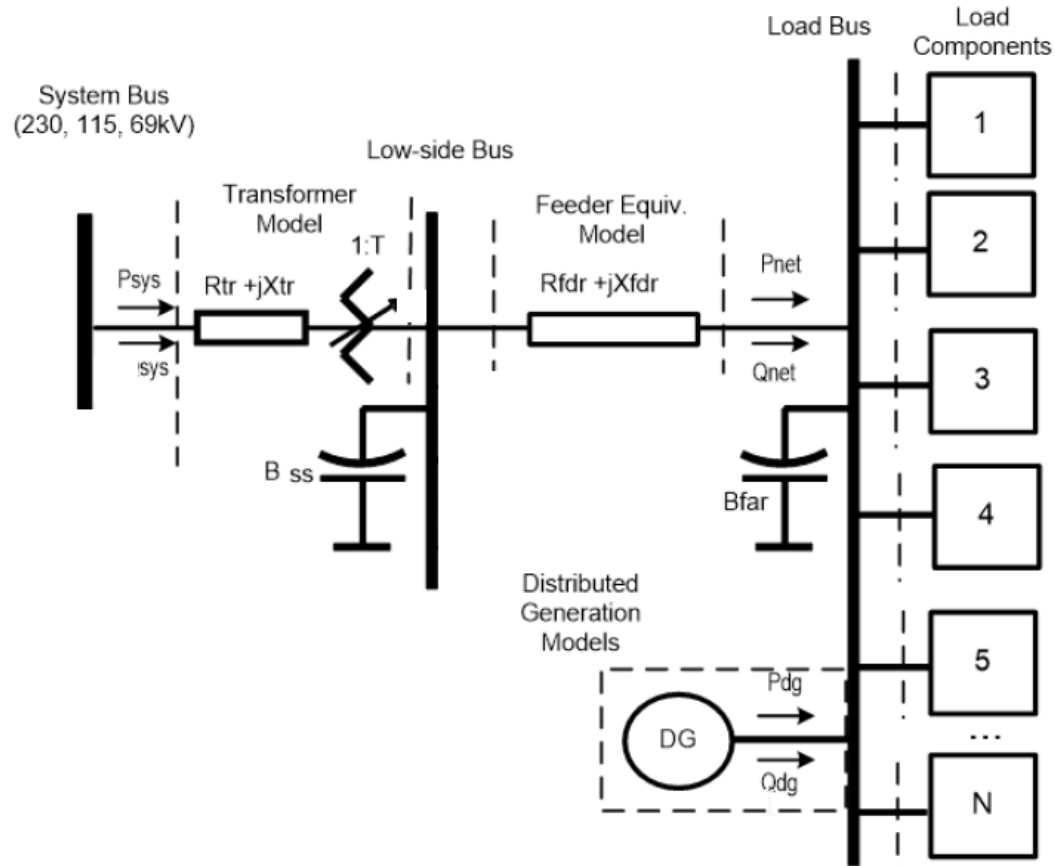
- Heat Pump Load Characteristics/ 2nd Quarter 2025
- Heat Pump Modeling/4th Quarter 2025
- Heat Pump Reliability Studies/ 1st Quarter 2026
- Heat Pump Technical Reference Document/2nd Quarter 2026

- Work Plan item detailed description: Heat Pump Model
 - Testing and modeling of a Heat Pump
 - Scheduled completion date: Q4 2025
- Applicability to address:
 - Grid Transformation
 - Model Fidelity
- Priority (H/M/L):M

- Work Plan item detailed description: Work with vendors to develop Single-Phase Motor phasor models. Compare the model against the existing performance model
- Scheduled completion date: Q2 2025
- Applicability to address:
 - Grid Transformation
 - Model Fidelity
- Priority (H/M/L):M

- Work Plan item detailed description: Load Modularization
 - GE PSLF and Power World have already developed the modular implementation of the dynamic load models in their software packages. Develop model verification test plan for evaluating the CMLD modular structure
- Benchmarking CMLD between different Vendors
- Scheduled completion date: Q1 of 2025
- Applicability to address:
 - Grid Transformation
- Priority (H/M/L):M

- Modular CMLD Development



- Work Plan item detailed description: Adjustable Speed Drive Model
 - EPRI and BPA tested a number of ASDs. EPRI has in the past developed a model for ASD anticipated to be sufficient for large-scale simulations. EPRI is considering a more detailed model for ASD.
 - Scheduled completion date: Q1 2025
- Applicability to address:
 - Grid Transformation
 - Model Fidelity
- Priority (H/M/L):M