ModV—Model Validation Tool

Powertech's model validation tool, ModV, provides generation, planning, and operation engineers with the necessary capabilities to:

- Validate generator dynamic models
- Comply with NERC MOD-026-1, MOD-027-1, and MOD-033-1 standards
- Save costs and time for onsite generator testing

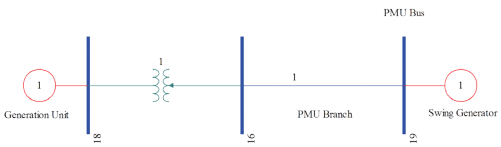
ModV is a standalone, highly intuitive, user-friendly application that streamlines power system modelling by validating the model parameters of generating units according to phasor measurement unit (PMU) measured data.

ModV is useful for dynamic model calibration. Comparing simulation results, such as power output from generators, with measured data facilitates the dynamic model calibration. The measured data can be time-varying voltage and frequency/angle measurements.

Streamlining Validation

ModV runs time-domain simulation for each generation unit to validate the unit's model subject to high-resolution PMU data available from field. The dynamic data for the units to be studied can be provided in either DSATools® format or third-party formats such as PSS®E and PSLF®.

ModV streamlines the validation process by leveraging the "Data Injection" feature of the DSATools® Transient Security Assessment Tool (TSAT) to play back measured data (PMU data) in simulation and monitor the response of the unit under study. Essentially, ModV forces the voltage and frequency of the PMU bus as per the values available from the PMU data. Once the voltage and frequency of the PMU bus are fixed, the PMU bus acts like an infinite bus. The generation unit respects the presence of this infinite bus and responds by adjusting its MW and MVAr output.



ModV comes with a suite of features such as zooming, panning, setting axis, and exporting data to Excel, which allows for easy graphical analysis of the results in detail.

Save Cost in Onsite Generator Testing

In addition to helping utilities achieve compliance with NERC model validation standards, ModV can provide cost savings in onsite generator testing. Provided these generation stations have reliable PMU data available, a snapshot of the recent PMU data can be used in ModV to determine the accuracy of the dynamic models for the generators that are due for testing. For the generators that perform well, testing can be suspended until the next test cycle, and resources can be focused on the generators whose models perform inconsistently with the PMU data.

ABOUT POWERTECH LABS:

Powertech Labs Inc. is one of the largest testing and research laboratories in North America, situated in beautiful British Columbia, Canada. Our 11-acre facility offers 15 different testing labs for a one-stop-shop approach to managing utility generation, transmission and distribution power systems.

Outside of the utilities industry, Powertech provides routine testing capabilities, product development, research and consulting services to support an array of industrial-type operations, electrical equipment manufacturers and automotive original equipment manufacturers.

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