



# Generator Grid Compliance Testing and Modeling

**Powertech's Generation Electrical Services group will support your facilities' grid compliance needs with testing, modeling, and consulting services in accordance with North American Electric Reliability Corporation (NERC), Western Electricity Coordinating Council (WECC), and other regional reliability standards.**

Over the years, NERC, WECC, and other regional regulatory entities have required generator owners' compliance with generator testing and model validation programs. Non-compliance may be subject to substantial fines or delay of unit interconnection.

Powertech's Generation Electrical Services group provides field testing, modeling, and consulting services to support grid compliance. With more than 20 years of experience, our engineers have tested over 500 generating units (including thermal, hydraulic, nuclear, solar, and wind) across nine countries. We work with clients to develop detailed test plans, perform on-site testing, and develop models based on comparison of computer simulation results with field measurement data. Powertech offers the following services in accordance with the NERC standards and WECC policy:

- **MOD-025-2:** Reactive power capability testing and verification of generating units
- **MOD-026-1:** Testing and modeling of generator excitation control system or plant volt/var control functions
- **MOD-027-1:** Testing and modeling of turbine/governor and load control or active power/frequency control
- **MOD-032-1:** Gathering generating facilities' steady state, dynamic, and short-circuit data
- **PRC-019-2:** Coordination of generating unit or plant capabilities, voltage regulating controls, and protection

- **PRC-024-3:** Setting generator frequency and voltage protective relays to ride through defined frequency and voltage excursions
- **PRC-025-2:** Analysis of the generator load-responsive protective relay settings to prevent unnecessary generator tripping during non-damageable disturbances
- **PRC-026-1:** Analysis of the generator load-responsive protective relay performance during stable power swings
- **AVR and PSS Tuning Study and Testing:** Theoretical study and field tuning for generator AVR and PSS controller settings

Powertech's engineers are also active members in various NERC and WECC modeling work groups and task forces, such as NERC Power Plant Model Verification Task Force (PPMVTF), Inverter-Based Resource Performance Task Force (IRPTF), and WECC Modeling and Validation Work Group (MWVG). This participation ensures our customers always get up-to-date information and achieve compliance with the latest standards.

## **Generation Electrical Services:**

The Powertech Generation Electrical Services group is focused on large power generators, providing condition assessment and specialized diagnostic tests, performance and acceptance testing of stator bars and coils for OEMs and asset owners, and testing and modelling of generator performance for NERC and WECC compliance.

## **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.*

**[www.powertechlabs.com](http://www.powertechlabs.com)**



## **FOR MORE INFORMATION CONTACT:**

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