



Station Planning Services

Powertech Labs provides Station Planning services for brownfield and greenfield projects

Planning a power system requires considering a range of technical issues, including type and size of loads and energy sources, transmission line connections, load flows and dynamic stability studies, voltage stability, transient stresses and protection and control requirements, including communications. The result is a cost-effective station plan, embodied in system one-lines and equipment specification sheets.

Powertech services include the following:

Station Topology

Selecting the appropriate station topology means taking into account reliability, security, maintainability, construction and operation costs, operability, familiarity to customer's staff, environmental regulations, safety, space requirements, and community needs. Our planners define the in-service-day, required inter-medium and ultimate station topology, considering the planned growth needs of the customer.

Station Transformation

With the overall topology and development plans of the station over the considered life of the station, Powertech's planners define the required and most cost-effective specs for the transformers, including winding configuration, voltage ratios and transformer impedance, tap change needs and BIL and SIL ratings. These transformer parameters affect the selection of system grounding, switching requirements for circuit breakers and disconnects, and the functional protective logic.

Station Studies

Our team can compute initial fault estimates and conduct studies to establish the ultimate and initial fault levels. We can also perform special transient studies to identify temporary and power frequency overvoltages, and develop mitigation measures to achieve a proper insulation coordination meeting switching and lightning requirements.

Planning One-line Development

Once the concept and system performance issues have been studied, our planners can capture the concept in a simple conceptual diagram commonly referred to as a one-line. This stage defines the operability of the station. We can also develop station one-lines for different stages of the project and for the ultimate design of the facility.

Station Equipment Specification

Our team develops the associated station specification sheet, wherein the required ratings of each piece of equipment are recorded for the direction of the design and equipment procurement processes by the customer. The quality of our product is supported by our deep knowledge of the commercially available equipment and the rating structure and standards for transformers, circuit breakers, surge arresters, capacitors, and instrument transformers.



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 electrical utilities, and testing gas components, pressure vessels and 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



FOR MORE INFORMATION CONTACT:

Dr. Jorge Hollman - 604.831.5148

Senior Manager & Principal Engineer
Substations Engineering Studies
jorge.hollman@powertechlabs.com

Powertech

www.powertechlabs.com