

Specialist Engineer - Transient Modelling

Powertech Labs Inc, BC Hydro's subsidiary that specializes in energy research, consulting, testing, and systems integration, has been serving power utilities, oil and gas companies, automotive, and electrical utility equipment manufacturers since 1989. We operate as a separate, unregulated, for profit, commercial company. In addition to providing innovative R&D, consulting and testing services to BC Hydro, Powertech provides the majority of its services to a large and diverse array of clients across North America, and around the world. Powertech is located on an 11-acre campus in Surrey, British Columbia and has 220 employees. Our reach and reputation are global, and we are recognized as a leader in technology, testing, and power systems software. Our location places us close to BC Hydro, 25 kilometers from the US border, and at a gateway between Asian and North American markets. Finally, we are located in one of the most desirable locations on the globe, with all the natural beauty of British Columbia on our doorstep. We call this home.

Powertech's brand and reputation command a dominant position in the power industry. To better serve our clients, we group our services under six market-orientated sectors: Generation, Transmission and Distribution, Substations, Power Systems, Grid Modernization and Advanced Transportation. Powertech's competitive advantage is enhanced through close collaboration between all sectors.

The company's staff consists of professional engineers, scientists, technologists and technicians from a wide range of disciplines. These highly skilled individuals have access to 21 well-equipped, specialized laboratories. Together, the resources allow us to offer a range of forward-looking technology services to help clients advance technology, solve complex problems, and maximize asset performance.

Finally, we are customer-focused: To ensure our customers have high confidence in our services, we attract the best resources, are highly responsive and constantly strive to improve the quality and value of our services.

Business Overview

The Substations Technology and Testing business unit provides substation research and development, material testing, and commissioning & acceptance testing. Consulting and investigation offerings include Engineering studies, asset management studies, condition assessment, failure investigation, and expert witness testimony. This business unit includes world class laboratories for Applied Chemistry and High Power and High Current testing of apparatus and materials.

Role Overview

As a member of the Powertech Team your role will be to perform desktop analytical studies, set-up and conduct electrical tests, and write-up clear and concise study reports. Clients range from those based in British Columbia to equipment suppliers, utilities, industrials, and research organizations around the globe.

Major Responsibilities

Perform desk-top analytical studies including but not limited to short circuit, grounding, induction, harmonics, transients, impact studies, temporary over-voltages, insulation coordination, disturbance analysis and failure analysis.

- * Develop innovative engineering techniques and apply theoretical and practical knowledge in testing, analysis and problem resolution
- * Participate and/or lead in the planning, preparation and execution of tests and equipment condition assessment according to international standards and customer requirements in the laboratory and the field
- * Coordinate projects or components of projects including scheduling work and tracking costs in accordance with company's quality controls and leveraging company resources and processes
- * Prepare detailed technical reports
- * Maintain detailed documentation throughout all phases of analytical studies
- * Remain abreast of changes in technology, standards, and the evolving global power industry
- * Participate in industry forums such as IEEE standards and CIGRE working committees
- * Promote Powertech services to existing and potential clients in order to provide a flow of projects and work for the group and Powertech
- * Respond to requests for quotations and requests for proposals from clients, and provide detailed technical proposals, cost estimates, and work schedules
- * Maintain professional relationships and communication with other departments, outside consultants, contractors, and suppliers in order to effectively and efficiently gather and relay information and resolve issues of concern
- * Conceive and explore new services opportunities

Qualifications

- * Registered or eligible for registration as a Professional Engineer with Engineers and Geoscientists British Columbia
- * Bachelor's degree in electrical engineering recognized by universities in Canada
- * Post graduate degree in electrical engineering from an accredited institution is desirable
- * Minimum of 15 years' related experience in electrical engineering
- * Foundational knowledge of power system operations and planning.
- * Experience with distribution and/or transmission modeling and simulation studies
- * Extensive experience with simulation tools such as EMTP-RV, PSCAD, Etap, CDEGS, Matlab/Simulink etc.
- * Experience with RTDS simulation environment.
- * Capability of developing user-defined library models
- * Software programming skills using Python, C++, C, Matlab
- * This position entails hands-on modelling and simulation of power systems to conduct transients, harmonics, and insulation coordination studies
- * Knowledge and practical experience in Testing, Equipment Specifications, Substations Planning, Operations & Maintenance, and Protection & Control will be considered an asset

Technical Skills and Experience

- * Experience identifying, analyzing, and resolving Electrical Engineering problems
- * Technical knowledge in Electric Utility Engineering and/or heavy industrial experience
- * Electrical and mechanical assembly and construction skills
- * General technical knowledge in generation, transmission, maintenance, apparatus, civil structures and/or control functions would be an asset
- * Introductory knowledge of project management
- * Experience in substation equipment, substation planning and design, testing and commissioning of substation equipment including protective relaying, maintenance of substation equipment, analytical studies (load flow, short circuit, protective device coordination, arc flash, grounding, harmonics) is desirable and would be considered a definite asset
- * Hands-on experience with field test equipment, data acquisition, and analysis equipment is desirable
- * Hands-on experience with power tools and shop equipment is desirable

Performance Competencies

- * Demonstrated rigor in modeling safety behaviors and safety awareness for working in laboratories and the field
- * Excellent customer service skills with ability to envision “walking in the customers’ shoes”
- * Excellent verbal and written communication skills
- * Excellent decision-making capabilities
- * Excellent detail-oriented, problem solving skills
- * Good aptitude for marketing and client contacts
- * Ability to work in a dynamic and collaborative team environment
- * Ability to lead and motivate team members
- * Ability to complete engineering tasks independently
- * Ability to quickly learn and apply new concepts, principles, and solutions
- * Demonstrates dependability and commitment to projects/tasks
- * Initiative and aptitude/adaptability to solve complex and varying challenges with minimal direction
- * Focus on consistency and quality in all work activities
- * Ability to optimally adapt to a constrained schedule and perform under pressure
- * Strong multitasking and organizational skills

Location: Surrey B.C.
Job Status: Full-Time Regular
Posting Close Date: January 9, 2022

Applicants with lower qualifications are welcome to apply and may be considered for a lower level position that commensurate with skills and experience.

All successful candidates will be required to provide proof of full vaccination against COVID-19 prior to commencement of employment.

Please be advised that these roles have been assessed as safety sensitive and pre-qualification alcohol and drug testing will be required as a pre-condition to employment. A condition of employment for this job is that you maintain your driver’s license (class 5) in good standing.

To learn more about Powertech Labs Inc., visit us at [Powertechlabs.com](https://www.powertechlabs.com/).
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