

## Power Systems Study Engineer

Powertech Labs Inc is a cleantech company with the mission of being a trusted innovation partner providing solutions, specialised testing, and technical expertise for a safe and sustainable global energy future. Powertech has a global reputation for delivering transformative solutions in both the electric power industry as well as the transport sector. A clean future will be driven by electric and hydrogen power, and we will help get there.

We are always guided by our values as a global clean-technology and engineering company:

- **Safety:** This top everything. We do our work safely or we do not do it at all.
- **Challenges:** We ready ourselves for the hardest challenges – through attaining accreditations, developing industry-leading innovative products & services, investing in our labs, hiring great people, and making them better.
- **Diverse Teams:** We are strongest together and capitalize on our varied attributes – together we are more than the sum of parts.
- **Our customers:** Customers fuel this company, and we constantly work with them to earn and retain their trust and loyalty. We expect that our customers hold us accountable to our commitments.
- **Excellence:** Striving for excellence, acting with integrity, and having the highest standards in quality are core to what we do.

Engineering Service Business Unit focuses on power system software development, power system and substation consulting studies and compliance testing services, as well as asset management solutions for electric utilities and other clients in power industry. We have an exciting opportunity for two (2) Power System Study Engineers to join a team of highly experienced power system study experts and specialists based at our head office in Surrey, B.C.

We are the vendor of the cutting-edge power system analysis software package, DSATools™, which has been recognized globally as leading-edge technologies and software platforms for dynamic security assessment of large complex power systems for both off-line (system planning) and on-line applications (near-real-time operation).

Our team provides a full spectrum of study services including fast electromagnetic transient switching studies, power system planning and operation studies (including transient, small-signal, voltage, and frequency stabilities), post-mortem investigation of system disturbances and events, generation and load interconnection studies, generator including wind & solar renewables and load model development or validation via field testing and NERC compliance studies (e.g., TPL, PRC, MOD, CIP, etc.). We are also equipped with a Real-Time Digital Simulator (RTDS) for evaluating and testing new control, protection, and communication schemes and devices.

### Duties

- Prepare power flow, short-circuit, and dynamic simulation study cases including creation of steady-state and transient study contingencies pursuant to study scope and requirements.
- Perform power flow, short-circuit, contingency analysis, stability (transient, small-signal, voltage, and frequency) and transfer studies.
- Perform power system planning and operational studies including NERC compliance TPL and PRC studies, etc.
- Develop user-defined models for special power system control and protection schemes and equipment for use in DSATools™ and other simulation platforms.

- Conduct model validation studies for renewables resources (solar and wind, etc.) and conventional generating units based on field measurement data.
- Perform control setting studies, and protection coordination studies.
- Prepare technical study reports including model validation reports per regulatory requirements.
- Develop proposals in response to request for proposal (RFP) and/or developing work scope based on clients' needs. Participate in software development and testing of new software releases.

## Qualifications

- Bachelor, Master's, or Ph.D. degree in Electrical Engineering specializing in power systems from a recognized post-secondary institution
- Registration or ability to immediately register as a professional engineer with the Engineers and Geoscientists of BC (i.e., non-British Columbia registrations are acceptable as long as there is an ability to immediately transfer the accreditation).

## Technical Skills and Experience

- Knowledge of power system modeling and calculation methods, such as steady-state (power flow, contingency, and voltage stability), short-circuit, and transient and small-signal stability (time domain and frequency-domain) analyses.
- Understanding of generator and renewable modeling, power system and/or substation protections, and control systems of synchronous generators, renewables, FACTS, etc.
- General knowledge of power system operation, protection, grid voltage and frequency controls, and relevant reliability standards.
- Proficient in power system simulation software is an asset.
- Experienced with programming in one or more of programming languages: Python, MATLAB, and C/C++

Job Status: Full-Time Regular

*Note: New graduates and experienced study engineers all are encouraged to apply. Candidates with more qualifications and experience will be considered for a Senior Engineer position.*

Please be advised that this role has been assessed as safety sensitive and pre-qualification alcohol and drug testing will be required as a pre-condition to employment.

**ALL CANDIDATES ARE REQUIRED TO ATTACH A COPY OF THEIR COVER LETTER, RESUME, DIPLOMA/DEGREE, ACADEMIC TRANSCRIPTS & PROOF OF PROFESSIONAL DESIGNATION.**

Note that applicants are required to submit/upload a copy of their college transcripts and Diploma as proof of post-secondary graduation.

If applicable, a copy of your work visa is also required.

**INCOMPLETE OR LATE APPLICATIONS CANNOT BE PROCESSED.** This will ensure we have all the necessary information to assess your application without any delays.