

Source: BC Hydro
Job Title: Senior Engineer - System Optimization
Job Number: BCH-R-4187-190125E1
Job Location: Burnaby, British Columbia, Canada

We're BC Hydro and we have a big job to do.

Keeping the lights on for over 4 million people across the province takes a lot of talented people doing many different jobs. From working deep in a generating station, atop a power pole, or behind a desk, whatever it is that makes you tick we offer challenging careers to help you reach your potential.

We're investing more than \$2 billion per year in major capital infrastructure projects to help meet the growing demand for safe, reliable power. We're upgrading transmission lines, building new substations, and investing in our hydroelectric generation facilities. We aim to provide meaningful and challenging work, opportunities for growth and a healthy work/life balance. We've been recognized for excellence and been named one of B.C.'s Top Employers and one of Canada's Best Diversity Employers for four years in a row.

It's our vision is to be the most trusted, innovative utility company in North America by being smart about power in all we do.

JOB DESCRIPTION

Duties:

Background:

BC Hydro operates a 12,000 MW generation system with a portfolio of hydroelectric, thermal, contract, and market resources. Within Generation System Operations (GSO), generation and water planning for projects are managed by teams based on planning time horizons from near term to long term. The System Optimization (SO) team of 4 is responsible for optimizing operation of our large basins over a monthly to internal annual basis. The role provides exposure to BC Hydro's generation operating assets and reaches across multiple lines of business. It is an opportunity for personal growth and development in a dynamic and exciting environment.

SO Team responsibilities include:

- * Develop, document, and maintain propriety software used to optimize and simulate the physical and economic operation of BC Hydro's generation assets and the integrated system: Hydro with storage, run of river hydro, wind, and thermal.
- * Liaise directly with our Operating Planning Engineers, our Resource Coordinators, BC Hydro's marketing arm Powerex, Finance, BC Hydro Regulatory, Energy Planning, Load Forecasting, and Project Delivery to optimize generation and water management.
- * Optimize system energy production and storage in the context of uncertainty in system loads, reservoir inflows, outages, Energy Purchase Agreements, and market prices. Provide direction on setting the marginal values of our large storage hydroelectric reservoirs.

- * Provide scenarios for financial and reliability analysis associated with evolving system issues and policy alternatives. Analyze, interpret and evaluate input data sources and resulting model results for relevancy, reliability, and validity.
- * Prepare and present regular (monthly) reports and advice to executive management and finance related to system modeling, security of energy supply, financial forecasts, and risk.
- * Communicate effectively with engineers, market traders, accountants, software consultants, and other staff, both within BC Hydro and externally, for the purposes of gathering and relaying information and resolving new issues of concern. Liaise with Project Delivery on the delivery of Capital Plans when there are potential impacts to generation and water conveyance.

Qualifications:

- * Engineering degree recognized by Canadian Universities.
- * Registered as a Professional Engineer with Engineers and Geoscientists of BC (EGBC).
- * Applicant may be hired as a Senior (8+ years) or Specialist Engineer (12+ years) depending on level of experience in the following areas:
 - o Software development;
 - o Economic modeling and analysis;
 - o Stochastic programming and/or development of optimization software;
 - o Storage based hydroelectric management and modelling;
 - o Generation and transmission outage planning and dispatch; and/or
 - o Graduate degree(s) or equivalent experience in Water Resource Management, Applied Mathematics or Economics with specialization in optimization of Energy Systems, Energy Markets, and/or Finance.
- * Applied programming background in one or more object-oriented languages. Experience with dynamic memory allocation and parallel processing is an asset.
- * Ability to make decisions in tight time frames and under pressure, while working with an extensive array of decision support models. Able to apply creative and critical problem solving to emerging issues. Able to multi-task and set priorities to achieve long term goals.
- * Engaging interpersonal, oral and written technical, communication and presentation skills.
- * Ability to provide direct or indirect work leadership to engineers and other technical stakeholders and Project Delivery on water conveyance and generation management.

ADDITIONAL INFORMATION

* Position location is at 6911 Southpoint Drive, Burnaby, BC. Frequent travel to other offices in Vancouver (Dunsmuir, Powerex) and Langley (Grid Ops) is expected and infrequent travel to our generation facilities across the province is also required.

* A condition of employment for this job is that you maintain your Driver's License: Class 5 In Good Standing.

How to Apply

Interested candidates should submit their applications online at https://app.bchydro.com/careers/current_opp.html by **Feb 17th, 2019**.

[Click here](#) to access the job posting or visit the [BC Hydro "Current Opportunities" Careers page](#) to view and apply for jobs.

You must use a supported browser, such as Firefox, Internet Explorer, Google Chrome or Safari. Your pop up blocker will also need to be disabled for the BC Hydro Careers site.

On the BC Hydro Careers site, click on the Apply button in order to complete the steps to apply for this job. Please be sure to update your Candidate Profile with your current resume and include copies of your certifications, if applicable.

We're always looking for exceptional people to bring new ideas, fresh thinking and the motivation to help shape the electricity system in B.C. It's an exciting time to be a part of our team as we invest in our system and prepare to meet the challenges of tomorrow.

Our values guide our work. Want to join us?

We are safe.

We are here for our customers.

We are one team.

We act with integrity.

We respect our province.

We are forward thinking.

BC Hydro is an equal opportunity employer.