

## SENIOR MECHANICAL ENGINEER HYDROGEN STATIONS

Surrey, BC, Canada

Full Time

Advanced Transportation - Hydrogen

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 most of its services to a large and diverse suite of clients across North America, and around the world. Powertech is located on an 11-acre campus in Surrey, British Columbia and has 200+ 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.

**This is your chance to have a global impact on achieving a low carbon future. The hydrogen vehicle industry is rapidly developing and Powertech is at the forefront. We have an exciting opportunity to lead a fun team within Advanced Transportation focused on the manufacture of industry-leading hydrogen vehicle fueling stations. Powertech has already helped put fuel cell vehicles on the road – we need you to help us put the fueling infrastructure in place.**

Powertech's Hydrogen Infrastructure group is a technical leader in the design, construction, and operation of compressed hydrogen refueling infrastructure solutions including stations, light-weight tube trailers, and station testing/certification equipment. We pioneered the design of turnkey, containerized hydrogen fueling station packages. Other firsts include the world's first 700 bar "fast-fill" hydrogen fueling station and the first hydrogen station capable of fueling four fuel cell vehicles simultaneously.

As a member of the Hydrogen Stations team, the Senior Mechanical Engineer shall work on all aspects of product development including specifications, analyses, testing, and integration of mechanical and electromechanical components used in hydrogen infrastructure systems. This position also provides expertise related to system design, mechanical assemblies, development of drawings, system troubleshooting, and documentation.

### Duties

- Lead the detailed mechanical design of hydrogen refueling equipment.
- Create new system designs and modify existing system designs with a focus on cost, simplicity, manufacturability, product performance, and overall product quality.
- Analyze and test components used in hydrogen infrastructure design.
- Document findings and provide suggestions for system refinement and improvements.
- Write clear reports that can be used to verify engineering analysis and drive fact-based decisions.
- Management of project schedules.

- Lead root cause analyses and problem-solving.
- Work with systems, mechanical, and electrical engineering teams to define integration requirements.
- Read and interpret Process and Instrumentation Diagrams (P&ID) as necessary.
- Perform process calculations required for equipment design and sizing.
- Oversee and provide technical input and directions to technicians and electricians involved in the construction and testing of the hydrogen fueling stations.
- Establish quality control and safety of the process and design.
- Develop standardized processes and technical procedures.
- Support the testing, commissioning, and remote support of hydrogen fueling equipment.
- Review and align with the broader corporate objectives such as safety, quality and environment management.

## **Qualifications**

- A degree in Mechanical, Mechatronics, or equivalent Engineering discipline from a recognized university.
- Registration as a Professional Engineer with Engineers and Geoscientists of British Columbia. Canadian, out-of-province registrations are acceptable only if there is an ability to immediately transfer the accreditation to Engineers and Geoscientists of British Columbia (EGBC).
- Minimum eight years of related experience ideally in design engineering, product development, design for manufacturing & assembly, and test experience ideally in a production environment.
- Significant expertise in several of the following areas is required:
  - AutoCAD and/or 3D CAD Design.
  - Computer and software systems skills as applicable to position including but not limited to: Word, PowerPoint, Excel, Project, and Outlook.
  - Preparing technical specifications and control descriptions.
  - CRN application requirements and Canadian safety authority regulations for pressure piping, fittings, and pressure vessels.
  - Fluids and thermodynamics design and calculations.
  - Preparing, reviewing, and approving PFD's, P&ID's, bill of materials, and equipment specifications.
  - Knowledge in Pressure piping design, fluids and thermodynamics design and calculations.
  - Understanding of mechanical, electrical and control systems.
  - Experience participating in HAZOP studies or other risk assessments.
  - Hydrogen or other high pressure gas experience and familiarity with hydrogen fueling codes will be considered an asset.

## **The following additional qualifications and skills are an asset for this role:**

- Experience in estimating costs for prototyping and production.
- Experience with Solidworks piping.
- Highest ethical standards and professionalism.
- Uncompromising dedication to safety and a commitment to work quality.

- Strategic thinker with exceptional analytical skills.
- Excellent verbal and written communications skills to adequately articulate and discuss technical options, present proposed solutions to a wide range of audiences, and the ability to adapt to the different understanding levels of the audience

Job Grade: P3

Job Status: Full time Regular

\* All applicants with lesser qualifications and relevant experience are encouraged to apply and may be considered at the appropriate level.

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.

A condition of employment for this job is that you maintain your Driver's License (Class 5) in good standing.

For Powertech Lab positions, the flexible work model options are different due to their specific operational requirements and details will be discussed at the interview stage

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.