



## EMPLOYMENT OPPORTUNITY

**Closing Date:** 21.01.2025

# HVDC SYSTEM STUDIES ENGINEER WINNIPEG, MB

*Manitoba Hydro is consistently recognized as one of Manitoba's Top Employers!*

### Great Benefits

- Competitive salary and benefits package.
- Defined-benefit pension plan.
- Nine-day work cycle which normally results in every other Monday off, providing for a balanced approach to work, family life and community.
- Flex-time and partially remote work schedule (providing the option to work remotely 3 days per 2 week period), depending on nature of work, operational requirements and work location.

Manitoba Hydro is a leader among energy companies in North America, recognized for providing highly reliable service and exceptional customer satisfaction. Join our team of Manitoba's best as we continue to build a company that supports innovation, commitment, and customer service, while actively supporting a diverse, equitable and inclusive workplace.

We are seeking an HVDC System Studies Engineer to work in System Performance Department. Under the direction of the HVDC Performance Section Head, you will be responsible for providing engineering support for HVDC protection and control equipment, the Real Time Digital Simulator (RTDS) equipment and pertinent model development and studies, DC protection coordination studies, steady state/transient stability studies, and specialized DC/AC system interaction studies.

### Responsibilities:

- Provide engineering support functions to ensure the performance of the HVDC transmission system meets targets through resolution of technical problems pertaining to the equipment, control, protection, and RTDS equipment in the HVDC Stations and to maintain targeted transmission capability with respect to the HVDC and associated equipment.
- Support the Principal HVDC System and Support Engineers in HVDC protection and control equipment and RTDS, including performance monitoring, troubleshooting, specification, electrical and mechanical design reviews, inspections, testing, and installation stages.
- Perform PSS/E, FDHAP, PSCAD, DSATools (PSAT, SSAT, TSAT, VSAT), RTDS, and other related studies, as required, for the smooth integration and operation of the HVDC system with the Northern Collector System (NCS) and the rest of the MH system.
- Provide input to the maintenance and improvement of ADHAP (Advanced HVDC Advisory Program - an expert system based on operating guidelines) and coordinate with other SPD (System Performance Department) SMEs, Control Centre Technology Systems, and System Control Departments to keep ADHAP up-to-date.
- Participate in commissioning teams during installation and testing of new HVDC functions and features, and during HVDC sustainment activities.
- Provide support for preparation of normal, abnormal, and emergency operating guidelines associated with HVDC and DC/AC system interactions, considering such effects as self-excitation, harmonic resonances, harmonic filtering, reduced voltage operation, reliability, and reactive power supply.
- Provide support for the MH Disturbance Analysis Team (DAT) investigations related to HVDC system events.
- Contribute to the analysis of the cause of HVDC protection, control, and RTDS equipment failures to determine the root cause and recommend a course of action.
- Work with other stakeholder departments to ensure there is an adequate supply of viable HVDC protection, control, and RTDS replacement parts for the HVDC stations in consultation with staff.
- Provide information required to meet NERC CIP requirements for HVDC protection and HVDC controls.
- Contribute to the asset management strategy for HVDC Control, HVDC Protection equipment, and RTDS Equipment, including documentation for annual reporting.
- Assist with the development of the HVDC Data Storage & Reporting (HDSR) application, documentation, training, and other methods of tracking the performance of HVDC equipment.
- Report on the performance of HVDC equipment using the HVDC Data Storage & Reporting (HDSR) application.
- Participate in MH HVDC Outage Statistics and MH HVDC Targets Working Group.

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- Coordinate with SPD's Day-Ahead team in monitoring, managing, and reporting on the Northern Collector System as part of Manitoba Hydro's MISO responsibilities.

### **Qualifications:**

- Graduate in Electrical Engineering from a university of recognized standing with a minimum of six years of directly related experience.
- Membership in good standing with Engineers Geoscientists Manitoba.
- Must have a detailed knowledge of HVDC technology, HVDC equipment, controls, HVDC Protection, and RTDS hardware. A detailed knowledge of BP I, BP II, and BP III equipment is a definite asset.
- Familiarity with power system equipment, AC system and AC generator controls, and their functions in the power system.
- Demonstrated knowledge of power system behaviors, power system simulation tools such as PSCAD, RTDS, DSA tools, FDHAP, and PSS/E, and technical knowledge of their application to multiple infeed HVDC system and surrounding power systems.
- Must have software and hardware design experience related to computer and programmable logic controllers used for closed-loop control, sequence control, and monitoring systems.
- Must have experience in installation and commissioning of HVDC Control and Protection equipment.
- Must have a demonstrated ability to provide requirements for specifications, review tenders, and purchase equipment.
- Must have demonstrated ability to communicate both verbally and in writing.
- Must be conscientious, capable of exercising good engineering judgement, and function with minimal direction toward established goals.
- Must be capable of dealing with people in a tactful, diplomatic, mature manner.
- Demonstrate the ability to exercise good engineering judgment while under high stress emergency conditions.
- Must possess a valid Manitoba Driver's Licence.

### **Salary Range**

Starting salary will be commensurate with qualifications and experience. The range for the classification is \$47.32-\$65.33 Hourly, \$90,677.86-\$125,192.08 Annually.

### **Apply Now!**

Visit [www.hydro.mb.ca/careers](http://www.hydro.mb.ca/careers) to learn more about this position and to apply online. The deadline for applications is **JANUARY 21, 2025**.

We thank you for your interest and will contact you if you are selected for an interview.

***This document is available in accessible formats upon request. Please let us know if you require any accommodations during the recruitment process.***

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