



## EMPLOYMENT OPPORTUNITY

**Closing Date:** 05.08.2025

# STUDIES AND ELECTROMAGNETIC FIELD EFFECTS 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 a Studies and Electromagnetic Field Effects Engineer to join our Grid Infrastructure Planning Department. Under the general direction of the AC/DC System Studies Engineer, perform system studies related to AC/DC planning, electromagnetic coordination, system reliability, and AC system controls. Provide specialized electrical engineering skills for analyzing system transient stability and electromagnetic transients on Manitoba Hydro's AC & DC Systems and prepare memorandums and reports recommending equipment, parameters, and/or course of action to be taken based on the results of engineering studies.

### Responsibilities:

- Lead or conduct complex technical studies, prepare reports, and make recommendations for new facilities or/and expansion of the Northern Collector System AC and HVDC systems.
- Perform planning studies and make recommendations related to the development of Manitoba Hydro's HVDC system, including the Northern Collector System and the interface to the southern AC system. Studies would include general concepts, ratings, and controls, and would be executed on load flow, stability, and EMTDC software programs.
- Using electromagnetic software programs; study and recommend planning electrical parameters related to transmission line Electro-Magnetic Field (EMF) effects performance.
- Lead Electromagnetic Field Effect measurement and/or evaluation using the relevant tools to investigate and confirm that the electromagnetic field effects are within safe levels as stipulated by standards and to support the licensing requirement of new facilities.
- Maintain the up-to-date versions of electromagnetic field effects related software and develop necessary transmission line models.
- Keep up-to-date knowledge of the electromagnetic field effects related software developments by other vendors/developers.
- Prepare reports and perform presentations to other departments on various EMF related topics.
- Liaise with outside agencies such as the Manitoba HVDC Research Centre and the university.
- Serve on internal/external task forces and working groups.

### Qualifications:

- Must be a graduate in Electrical Engineering from a University of recognized standing with a minimum of six years related engineering experience.
- A master's degree in electrical engineering or proof of having taken relevant graduate courses would be considered an asset.
- Professional member in good standing with Engineers Geoscientists Manitoba (or willingness and ability to attain within a specified amount of time).
- Must obtain and maintain a current Personnel Risk Assessment and a "Clear" security rating in accordance with Manitoba Hydro policy P513.
- Critical Infrastructure Protection (CIP) Training is required and must be completed prior to transfer date and renewed annually.

- Advanced understanding of control systems theory and applications, general understanding of AC systems, HVDC systems, generator operation, and the interconnections. Aptitude to learn the specifics of the Manitoba Hydro grid and planning.
- Knowledge of power system dynamics such as power system transient stability, frequency stability, voltage stability and control.
- An ability to analyze and interpret data measured for electromagnetic field effects related work.
- Proficient with computer programs intended for power system simulation such as Mathcad, MATLAB, PSS/E and TSAT load flow and stability, and PSCAD/EMTDC electromagnetic transients.
- Ability to develop and present complex issues in a clear, concise, and effective manner.
- Ability to establish and maintain successful working relationships with internal and external groups.
- Aptitude for carrying out open ended investigative type studies with supervision.
- Ability to schedule and complete work with minimum supervision.
- Possess a valid Province of 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 AUGUST 5, 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.***