Manitoba Hydro
energy for life

EMPLOYMENT OPPORTUNITY

Closing Date: 2026/06/22

Power System Studies Engineer (Electrical Engineer)

Winnipeg, MB

Manitoba Hydro is consistently recognized as one of Manitoba's Top Employers! We are 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 champions safety, supports innovation, and delivers on our commitment to customer service - while actively fostering a diverse, equitable, and inclusive workplace reflective of the communities we serve.

Great Benefits

- Competitive salary and comprehensive benefits package.
- Defined-benefit pension plan for long-term financial security.
- Nine-day work cycle, typically resulting in every other Monday off to support a balanced approach to work, family life and community.

Position Overview:

We are seeking a Power System Studies Engineer to join our Grid Infrastructure Planning Department. Under the general direction of the Principal System Studies Engineer, the Power System Studies Engineer will initiate, conduct, and analyse transmission system planning studies involving generation station outlet transmission and existing and future interconnections to assess whether there is adequate transmission capacity including their impact on the development of the Manitoba Hydro interconnected power system.

Responsibilities:

- Perform planning studies (load flow, transient stability, contingency analysis, voltage stability, fault analysis and electromagnetic transient) and make recommendations for generation station outlet transmission and interconnections with neighbouring utilities.
- Conduct Interconnection Evaluation and Facility Studies for Generator Interconnection requests under the Manitoba Hydro Open Access Interconnection Tariff (OAIT).
- Conduct System Impact and Facility Studies for long-term firm Transmission Service Requests under the Manitoba Hydro Open Access Transmission Tariff (OATT) or other tariffs.
- Conduct reliability assessments for compliance with NERC and Manitoba Hydro standards (e.g., CIP-014, PRC-023, MH-TPL-001).
- Assist with NERC compliance activities and ensure compliance for NERC standards and requirements owned by Manager, Grid Infrastructure Planning department.
- Prepare estimate and schedule requests for new generation interconnection and transmission service request studies.
- Present new generation interconnection study results and transmission service request results to external Transmission Operator and Owner Stakeholders for comment.
- Develop functional equipment specifications for new and specialized equipment such as FACTS devices, circuit breakers, lightning arresters, transformers, capacitors and special protection systems.
- Conduct transient studies utilizing PSCAD, EMTP, RSCAD or other power system electromagnetic transient simulation tools. Perform hardware-in-the loop simulations to test power system protective devices and controllers using real time digital simulation tools (RTDS).
- Assist with maintaining and updating Manitoba Hydro's Transmission System Interconnection Requirements (TSIR).
- Represent Manitoba Hydro and provide expertise to internal/external working groups, task forces and committees as appointed.

Qualifications:

- Graduate in Electrical Engineering from a University of recognized standing with a minimum of six years of related experience including two years of experience directly related to the planning of power systems.
- Professional member in good standing with Engineers Geoscientists Manitoba (or willingness and ability to attain within a

specified amount of time).
- Must have completed Standards of Conduct training or be willing to complete within two weeks of start date.
- Demonstrated advanced knowledge of computer programs (PSS/E or DSA PowerTools) used for electric power system studies such as load flow, contingency analysis, transient stability, voltage stability and fault analysis.
- Demonstrated advanced knowledge of NERC and Manitoba Hydro planning standards and criteria and the study procedures for transmission service requests and generator interconnection service requests given in Manitoba Hydro's open access tariffs.
- Working knowledge of control systems (governors, exciters and HVDC power controls), protective relaying and the electrical characteristics of transmission lines, transformers, generators and loads.
- Working knowledge of a programming language such as Python is an asset.
- Working knowledge of electromagnetic transient programs (PSCAD/EMTDC or EMTP) is an asset.
- Working knowledge of equipment standards (CSA, ANSI, IEEE, IEC, NEMA) is an asset.

Salary Range

Starting salary will be commensurate with qualifications and experience. The range for the classification is $48.74-$67.29 Hourly, $93,398.24-$128,947.78 Annually.

Apply Now!

Ready to join a team that energizes Manitoba and puts safety, innovation, and inclusion at the heart of everything we do? Visit www.hydro.mb.ca/careers to learn more about this position and to apply online.

Application deadline: JUNE 22, 2026.

We appreciate your interest in Manitoba Hydro and thank all applicants. Only those selected for the next stage of the selection process will be contacted.

If you require accommodations during the recruitment process or need this posting in an accessible format, please let us know - we're committed to a barrier-free experience for all candidates.