



EMPLOYMENT OPPORTUNITY

Closing Date: 2026/05/19

Senior AC/HVDC Control 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 Senior AC/HVDC Control Studies Engineer to join the Grid Infrastructure Planning Department. Under the general direction of the Principal AC/DC System Planning Engineer, lead complex studies including the applications of PSCAD/EMTDC simulation and Real-Time Simulator (RTDS) and make strategic recommendations relating to the HVDC transmission system and possible future FACTS devices, and to determine their impact on and implementation in the Manitoba Hydro system. Will provide expertise in studies including system simulations, system development, and assistance in the investigation of problems on the HVDC system and associated AC support facilities.

Responsibilities:

- Lead complex studies for HVDC transmission systems, FACTS devices, and their associated AC support facilities. In particular, investigate control concepts, AC and DC fault responses and strategies, over-voltage limitations and general AC/DC interactions.
- Provide technical leadership in control and protection system hardware-in-the-loop testing and model development initiatives using the Real-Time Digital Simulator (RTDS) platform in the corporation.
- Develop, validate, and maintain complex simulation models of DC and AC equipment, including FACTS devices, in such programs as RTDS, PSCAD/EMTDC and PSS/E to accurately represent the Manitoba Hydro system.
- Lead complex control and transient studies utilizing in-house or out-of-house electromagnetic transient programs PSCAD/EMTDC, and power system simulators (RTDS).
- Initiate or lead complex exploratory studies on approved research projects.
- Maintain advanced knowledge and expertise of technical developments in HVDC transmission, FACTS device technology, and electric power system probabilistic planning, and maintain a broad interest in electric power system technology.
- Ensure continued technical proficiency in HVDC Planning software tools such as PSCAD and RSCAD, with responsibility for maintenance, updates, and governance of Manitoba Hydro model libraries.

Qualifications:

- Graduate in Electrical Engineering from a university of recognized standing with a minimum of seven years' related experience, including a minimum four years' experience related to the planning of high voltage power system.
- Professional member in good standing with Engineers Geoscientists Manitoba (or willingness and ability to attain within a specified amount of time).
- An advanced engineering degree (M.Sc. or Ph.D.) or relevant post graduate courses in areas such as HVDC transmission, FACTS technology, HVAC transmission, power system transient simulation, and control systems would be an asset.
- Must be an expert in the PSCAD/EMTDC program and Real Time Digital Simulator (RTDS) and demonstrated advanced knowledge of conducting power system transient studies with these simulation tools.
- knowledge of HVDC system and its associated controls.
- Proven ability to prepare, analyse, and evaluate reports, and to carry out assigned duties with mature judgement and

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minimum supervision.

- 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.

Salary Range

Starting salary will be commensurate with qualifications and experience. The range for the classification is \$52.88-\$72.45 Hourly, \$101,332.40-\$138,828.30 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: MAY 19, 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.