



EMPLOYMENT OPPORTUNITY

Closing Date: 01.11.2024

CONTROL 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 a Control Studies Engineer to work in Grid Infrastructure Planning Department. Under the general direction of the System Controls Engineer, perform studies related to the planning of the functional design of system, generator, and HVDC auxiliary 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:

- Conduct complex technical studies, prepare reports, and make recommendations for new facilities or/and expansion of North Collector System AC and HVDC systems.
- Perform planning studies and make recommendations related to the development of control design concepts pertaining to the small signal and transient stability of the Manitoba Hydro power system, including the Northern Collector System and its interface to the southern AC system, the remainder of the bulk AC system and its interconnections to other entities. Studies would include general concepts, ratings, and controls, and would be executed on load flow, stability, eigenvalue, and electromagnetic transient programs.
- Prepare data for and conduct load flow and transient stability studies to determine suitable parameters for generator control systems such as speed governors, exciters, power system stabilizers, joint load and joint var control devices and for controls pertaining to FACTS devices, IBRs and HVDC auxiliary controls.
- Review and approve Manitoba Hydro PSS/E Generator Model drawing, generator & transformer power flow data and generator dynamics model such as turbine governors, exciters, power system stabilizers, compensator, turbine load controller and excitation limiter. Take the lead role in creating and improving the template of Manitoba Hydro PSS/E Generator Model.
- Consult with other Manitoba Hydro personnel, manufacturers and/or consultants, develop appropriate code from manufacturers' data and from field responses for load flow and stability program representation of specific power devices and their controls which exist, or are being planned, on the Manitoba Hydro system.
- Develop, maintain, and apply system models appropriate for use in eigenvalue analysis of the Manitoba Hydro and interconnected power systems.
- Develop and maintain load flow and stability models of controls to be used in MRO/MMWG stability study cases.
- Consult with other Manitoba Hydro personnel, manufacturers, and/or consultants, update and maintain the existing planning machine data base with information such as ratings, power factors, impedances, time constants, etc. for all generators and synchronous condensers on the Manitoba Hydro system.
- Coordinate with other Grid Infrastructure Planning team members to develop and establish the updating and maintenance procedure of Manitoba Hydro Generator Models.

Qualifications:

- 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).
- Good understanding of power systems related control theory and applications, AC systems, HVDC systems, generator operation, and the interconnections.
- Familiarity with planning techniques, including techniques related to AC/DC planning, system controls, and generalized AC system planning.
- Proficient with computer programs intended for power system simulation such as Mathcad, Matlab, PSS/E and TSAT load flow and stability, SSAT eigenvalue analysis, PSCAD/EMTDC electromagnetic transients.
- Proficient with PSS/E and TSAT automation study with utilization of Python Program and MATLAB Simulink for improving study efficiency.
- 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.
- Ability to schedule and complete work with minimum supervision.
- Must obtain and maintain a current Personal Risk Assessment and a "Clear" security rating in accordance with Manitoba Hydro policy P513.
- 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 \$46.06-\$63.58 Hourly, \$88,251.02-\$121,841.46 Annually.

Apply Now!

Visit www.hydro.mb.ca/careers to learn more about this position and to apply online.
The deadline for applications is **NOVEMBER 1, 2024**.

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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