

Planning for power



Manitoba Hydro has a strong record of investing wisely in energy-related opportunities; planning for the energy demands of an ever-growing province; and responsibly managing a vital resource—water. The corporation is adept at anticipating Manitoba's energy needs and developing solutions that are financially sound and environmentally responsible.



The picturesque Slave Falls Generating Station on the Winnipeg River.

THE WUSKWATIM PROJECT

Considerable progress was made this year on the 200 MW Wuskwatim Generating Station, the first new hydroelectric facility to be built in the province since Limestone in the early 1990s. Located 45 km southwest of Thompson on the Burntwood River, the station is being developed by the Wuskwatim Power Limited Partnership, a legal entity owned by Manitoba Hydro and the Nisichawayasihk Cree Nation.

A major project milestone was reached with the awarding of the General Civil Contract to the O'Connell-Neilson-EBC Partnership in November 2008. The partnership was on site at Wuskwatim and mobilized before the end of the calendar year. A notable feature of the contract is the advancement of the project in-service date from 2012 to 2011.

Activities this year were focused on the excavation of the powerhouse and spillway areas and completion of infrastructure contracts. Civil work to date has included the excavation of approximately two million m³ of overlying soil and bedrock for the principal structures and channels. Coarse and fine aggregate for concrete production has also been manufactured and stockpiled for use in the upcoming months. By year's end, the main construction camp and support facilities, including recreational facilities and a cross-cultural area, were fully operational. The camp provides accommodation for over 600 workers, and includes water and sewage treatment plants, ambulance and fire buildings, and a kitchen and dining complex.

Environmental, social and economic monitoring continued at Wuskwatim and is being conducted in accordance with the terms and conditions of regulatory approvals issued by provincial and federal regulatory agencies. A wide range of monitoring was conducted on the Burntwood River in the open water season of 2008 and the winter of 2009 to determine the impact of cofferdam construction, which occurred in both the winter and summer of 2008. Sediment levels were monitored and measures were taken to ensure that water quality was not affected during in-stream cofferdam construction.

Since the start of construction, approximately 65 per cent of Wuskwatim's workers have been Aboriginal people. Over the past year, project employment peaked at over 400 workers. Several cross-cultural workshops and traditional ceremonies took place throughout the year to express respect for the environment and local culture related to the Wuskwatim project.

A variety of activities took place at the Wuskwatim Generating Station site this year, including (clockwise from top) the excavation of the station's powerhouse and spillway areas; heritage resource investigations; and the manufacturing and stockpiling of crushed rock (aggregate) for concrete and other applications.



KEYYASK GENERATING STATION

The proposed site for the potential Keeyask Generating Station is located on the Nelson River, approximately 60 km downstream from Split Lake and 175 km northeast of Thompson. Keeyask would have a nominal capacity of 695 MW. Under the current schedule, the station's earliest in-service date is 2017.

In June 2008, a milestone was reached with concurrence on the Joint Keeyask Development Agreement (JKDA). Party to the agreement were the Tataskweyak Cree Nation, War Lake First Nation, Fox Lake Cree Nation, and York Factory First Nation. After an intensive period of community consultations, all four communities voted to ratify the JKDA and their respective Adverse Effect Agreements.

A historic ceremony took place in the community of Split Lake in 2009 to mark the official signing of the JKDA and outlined the partnership arrangements for First Nations' participation. Manitoba Hydro will provide administrative and management services for Keeyask and will own at least 75 per cent of the equity of the partnership. The Keeyask Cree Nations collectively have the right to own up to 25 per cent of the partnership.

500-MW POWER SALE WITH WISCONSIN PUBLIC SERVICE

In April 2008 Manitoba Hydro signed a formal term sheet with Wisconsin Public Service (WPS) to provide up to 500 MW of clean, renewable hydro power over 15 years, starting in 2018. The long-term sale will require new hydroelectric facilities in northern Manitoba and a major new transmission line between Manitoba and the United States. Manitoba Hydro has an existing two-year contract for the sale of 100 MW with WPS that began in June 2007.

CONAWAPA GENERATING STATION

The proposed site for the potential Conawapa Generating Station is on the Nelson River, approximately 775 km north of Winnipeg and 90 km northeast of Gillam. Situated approximately 30 km downstream from the existing Limestone Generating Station, Conawapa would have the capability of producing approximately 1 485 MW of electricity—the largest station to be built in the province. Adding Conawapa would bring hydroelectric generating capability of the Lower Nelson River alone to over 5 000 MW.

Environmental field studies and monitoring were ongoing at the Conawapa site during the summer of 2008. While no final design, development, or construction decisions have been made regarding the future station, public, engineering, and environmental consultation activities are underway. The station's earliest in-service date would be 2022 under the current schedule.

A formal planning process is underway with the communities in the vicinity of Conawapa, including Fox Lake Cree Nation, York Factory First Nation, Tataskweyak Cree Nation, War Lake First Nation, and Shamattawa First Nation. Planning and consultation involve discussions relating to training, project description, environmental and regulatory matters, employment and business opportunities, the negotiation of adverse effects arrangements, and potential income opportunities.

KELSEY RE-RUNNERING CONTINUES

The Kelsey Generating Station Re-runnering Project continued this year with the refurbishment of the station's third generating unit. The project—which will eventually include all seven of the station's units—will increase the station's output by approximately 40 per cent. Re-runnering involves the installation of more efficient turbine runners, replacing steel liners, rewinding rotor and stator assemblies, and upgrading associated mechanical and electrical systems.



Wicket gates from a generating unit at the Kelsey Generating Station in the process of being refurbished.

REBUILDING POINTE DU BOIS

Pointe du Bois is Manitoba Hydro's oldest generating station, first producing power in 1911. The facilities at the station require major repair or replacement to maintain public and dam safety standards, provide a safer working environment for staff, and ensure reliable power production.

In evaluating its options, Manitoba Hydro is integrating social, economic, and environmental considerations as part of the project planning process. Surveys, key person interviews, preliminary meetings, and public open houses have been held with the public, Aboriginal communities, and government regulators. Environmental studies, such as sturgeon and other biological studies continue. The corporation expects to decide on the program it will pursue in mid-2009 and to submit an environmental impact statement to provincial and federal regulators for approval in the winter of 2009-10.

FROM TRAMWAY TO ROADWAY

The Slave Falls Generating Station, located on the Winnipeg River in Manitoba's Whiteshell Provincial Park, is only accessible by way of a tramway rail line originating at the Pointe du Bois Generating Station. Constructed in 1928, the tramway is used to transport staff and equipment to and from the Slave Falls plant.

In order to improve access to the station, the corporation has started to convert the tramway into an all-weather access road. Manitoba Hydro negotiated a contract last year with the Sagkeeng First Nation for the road clearing work, which started in November 2008 and was completed by March 2009. Work on the all-weather road is expected to commence in the summer of 2009 and be finished by the fall of 2010.

CANADA'S LARGEST WIND FARM SLATED FOR DEVELOPMENT IN SOUTHERN MANITOBA

In April 2008 Manitoba Hydro entered into negotiations with Babcock & Brown Canada ULC to develop a 300-MW wind farm at St. Joseph, Manitoba. The project, which would be one of the largest in Canada, is subject to regulatory approvals and the completion of a 25-year power purchase agreement between Babcock & Brown and Manitoba Hydro.



Manitoba Hydro purchases power from the 99-MW independent wind farm at St. Leon, Manitoba.



The oldest generating station in Manitoba Hydro's system—Pointe du Bois on the Winnipeg River.