



YEAR IN REVIEW

For the year ending March 31, 2016



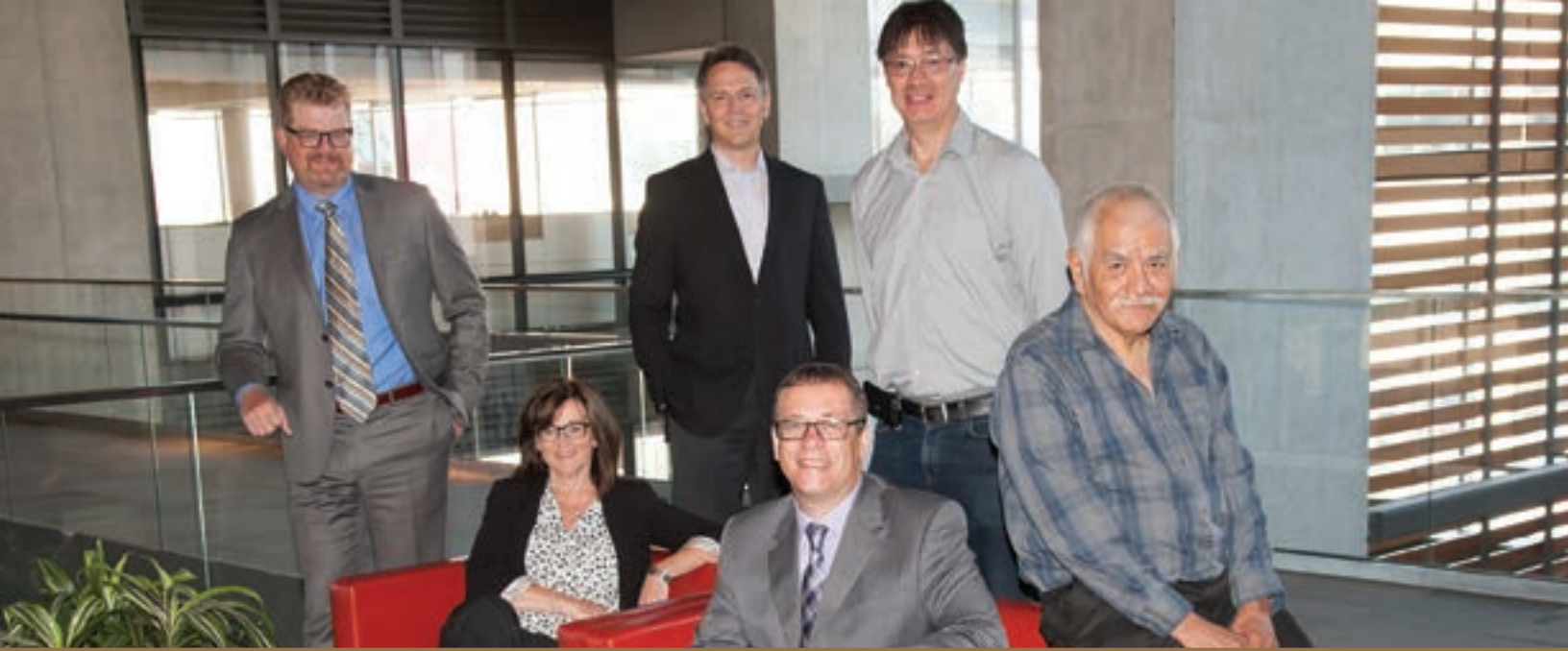
WUSKWATIM

Power Limited Partnership

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Directors of the General Partner of WPLP (L TO R)

Back row – Wesley Penner (Manitoba Hydro), Lorne Midford, Chair (Manitoba Hydro), Marcel Moody (Nisichawayasihk Cree Nation).
Front row – Nancy Willms (Manitoba Hydro), Darren Rainkie (Manitoba Hydro), Jimmy Hunter-Spence (Nisichawayasihk Cree Nation).



Wuskwatim Power Limited Partnership (WPLP), a legal entity involving Manitoba Hydro and Nisichawayasihk Cree Nation through its wholly owned Taskinagahp Power Corporation (TPC), has developed the Wuskwatim Generating Station on the Burntwood River in northern Manitoba. It marked the first time in Manitoba and Canada that a First Nation and an electric utility have entered into a formal equity partnership to develop and operate a hydroelectric project. Manitoba Hydro provides management and operational services to WPLP in accordance with the Project Development Agreement (PDA).



INTRODUCTION AND BACKGROUND

Nisichawayasihk Cree Nation and Manitoba Hydro spent nearly a decade discussing, planning and undertaking the environmental studies and regulatory processes for the 200-megawatt Wuskwatim Generation Project operating in Nisichawayasihk Cree Nation's traditional territory on the Burntwood River downstream of Wuskwatim Lake at Taskinigup Falls.

In 2006, the Wuskwatim Project Development Agreement (PDA) that governs all aspects of the project was approved by Nisichawayasihk Cree Nation Citizens and signed by senior Manitoba Hydro officials and Nisichawayasihk Cree Nation Chief and Council. Construction started in August that year.

The agreement provided the option for Nisichawayasihk Cree Nation to own up to one-third of the Wuskwatim Generating Station through its wholly owned Taskinigahp Power Corporation. Nisichawayasihk Cree Nation has confirmed its intent to maintain its 33 per cent ownership position in the Wuskwatim Project.

The Wuskwatim Power Limited Partnership (WPLP) is governed by the Board of Directors of its General Partner (5022649 Manitoba Ltd., a wholly owned Manitoba Hydro subsidiary). The Board consists of two Nisichawayasihk Cree Nation and four Manitoba Hydro representatives. Pursuant to the PDA, WPLP contracted Manitoba Hydro to construct, manage, operate and maintain the Wuskwatim Generating Station.

Manitoba has a large self-renewing supply of waterpower with many hydroelectric generating stations developed to provide electrical energy for its citizens. Wuskwatim became fully operational in October 2012 and produces clean, renewable hydroelectric power. It is the first generating station project to be built in Manitoba in nearly two decades. It adds to Manitoba's generation assets, helps to meet the province's domestic needs and provides energy to export customers.

MESSAGE FROM THE CHAIR



Lorne Midford,
Chair, Wuskwatim Power Limited Partnership

The Wuskwatim Generating Station has provided Manitobans with clean and reliable hydroelectric power since the first turbine generator went online in June 2012.

This past fiscal year, Wuskwatim operated at an impressive 99 per cent availability factor and produced 1.5 million megawatt hours of electricity, meeting about 95 per cent of its production capacity.

A regular complement of 17 full-time staff were employed at the facility, including six Aboriginal persons (two Nisichawayasihk Cree Nation members). The station also hosted four trainees who are on rotation—three of whom were Aboriginal.

Safety is a primary consideration in our operations and this year, as part of ongoing efforts to promote a safe and healthy workplace, a number of safety-related presentations were given to staff. I believe these efforts continue to bear fruit and I am proud to report there were no lost-time incidents this past year.

An important part of operating the Wuskwatim Generating Station is the ongoing monitoring to understand any environmental impacts of this facility. This past year, comprehensive monitoring plans and activities continued to be implemented for terrestrial mammals, birds, fish and resource use. In addition, the planned rehabilitation of the areas which were cleared or disturbed during construction continued. As of the summer of 2015, rehabilitation activities have occurred in all required areas.

Aski'otutoskeo Ltd. (AOL), Nisichawayasihk Cree Nation's environmental monitoring company, conducted its annual *Ethinesewin*-based monitoring program tour in August at the Wuskwatim Generating Station and in the surrounding area. *Ethinesewin* is the traditional knowledge and collective wisdom of the Nisichawayasi Nehethowuk (people from this area). Youth from the community assisted the Elders in their monitoring activities and observations. This past year their inspection included the shorelines of the forebay, as well as at the Wuskwatim Falls and channel improvement area. These activities are important as they provide us with valuable information and a good understanding of any impacts on the environment. The results of monitoring also allow us to mitigate or avoid effects.

From a financial perspective, WPLP reported a net loss for 2015-16 of \$31 million, which is consistent with the expectations and projections for the early years of operations. This compares to a net loss of \$34 million in 2014-15. Hydroelectric generating stations characteristically show losses in the early years of operations due to high up-front carrying costs associated with significant initial capital investment.

Relying on the relationship foundation that has been developed over nearly two decades, Nisichawayasihk Cree Nation and Manitoba Hydro collaboratively addressed the challenges presented by changing project economics, specifically lower than anticipated export prices and higher project capital costs.

As partners in this project, we continue to work well together in achieving the common objectives of providing economic opportunity to community members and providing a long-term clean and sustainable energy source.

Lorne Midford

A handwritten signature in dark ink, appearing to read "Lorne M. Midford".

Chair of the General Partner of
Wuskwatim Power Limited Partnership
(5022649 Manitoba Ltd.)

OPERATIONS



STATION PERFORMANCE

Manitoba Hydro uses three main criteria to measure generating station performance: net generation output, unit availability and unit forced outage rate.

Net Generation Output

Wuskwatim Generating Station produced 1.5 million megawatt hours of electricity this year, which is about 95 per cent of its forecasted production capacity. Greater-than-average flows this past fiscal year are reflected in the near-forecasted output at the generating station. Monthly production averaged nearly 122,392 megawatt hours, with peak production of 137,642 megawatt hours in December and a low of 110,624 megawatt hours in June. These production numbers are a result of the near-normal water supply available in the Burntwood and Churchill River watersheds.

Unit Availability Factor

The generating station demonstrated an average monthly unit availability factor of 99 per cent, a measure of when the station is available to run when required. This is above average for a hydraulic generating station of this kind.

Unit Forced Outage Rate

The generating station demonstrated a forced outage rate of less than one per cent, a measure of the frequency of electrical or mechanical problems that remove a unit from service. The total of 2.5 hours of unit forced outage time meets the target, which is set at less than one per cent.

MAINTENANCE AND REPAIRS

In June 2015, Unit 1 was taken out of service for several days for a three-year maintenance check. The generator passed all inspections and did not require any major repair. Only normal cleaning and inspections were required. As information is gathered on the condition of the units, the maintenance program will be further refined.

Discharge Ring Stud Replacement

No issues were found with the repairs of the discharge ring stud replacement and it is expected that inspections could soon be done on a less frequent basis.

DIRECT CONTRACT OPPORTUNITIES

Nisichawayasihk Construction Limited Partners (NCLP) was awarded a service contract for road maintenance and other related work.

SYSTEMS AND PROCEDURES

The generating station's operating procedures manuals are approximately 90 per cent complete and its maintenance program is almost 80 per cent complete. However, improvement efforts are always ongoing.

SAFETY

Safety incident and activity reports are prepared monthly. During the past year, quarterly Workplace Safety and Health Committee meetings were held.

Presentations were delivered on topics such as cold weather safety, ladder safety and safe driving. No lost-time incidents occurred during this fiscal year.

NAVIGATION SAFETY

During the 2015 open water season, two Nisichawayasihk Cree Nation members were hired through Manitoba Hydro's Waterways Management Program to patrol Wuskwatim Lake and gather data on debris type and quantity. The crew patrolled a total of 3,815 kilometres of shoreline and removed an estimated 425 pieces of debris. This work will continue during the 2016 open water season. No safety incidents were reported over the past year on Wuskwatim Lake or downstream of the station.



STAFFING

Full-time and Shared Positions

At the end of March 2016, there were 17 full-time staff at Wuskwatim. These positions include technical/specialized and non-technical positions. Besides the regular complement of employees, the plant also hosted three mechanical and one electrical trainee who are on rotation throughout Manitoba.

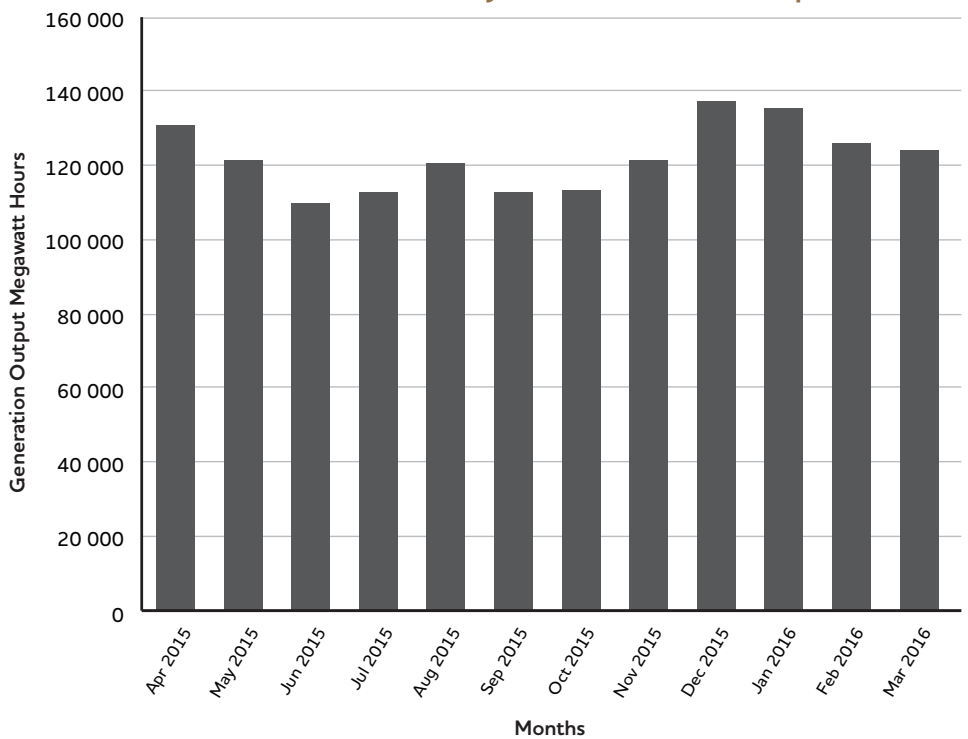
Aboriginal and Nisichawayasihk Cree Nation Representation

At the end of March 2016, 10 of the regular station employee complement were of Aboriginal decent. Several Nisichawayasihk Cree Nation members worked at Wuskwatim during the past year.

PLANT TOURS

This year, tours were provided to representatives from the Board of Directors and Management of ALLETE (Minnesota Power), Midcontinent Independent System Operator (MISO), SaskPower and Xcel Energy.

Wuskwatim Monthly Net Generation Output



ENVIRONMENTAL MONITORING

As part of Wuskwatim's federal and provincial licensing requirements, a rigorous environmental monitoring program has been in place since before construction began. With the generating station now operating, the monitoring program has evolved to focus on potential operations-related components to determine if the station is having any long-term environmental impacts upstream or downstream, on lands along the access road and at the station site.

The Monitoring Advisory Committee (MAC), in place since construction began, met twice during the year and hosted an open house in May 2015 at Nelson House. The MAC also had the opportunity to tour the soil bioengineering sites in August 2015.

ETHINESEWIN MONITORING

Ethinesewin is the traditional knowledge and collective wisdom of Nisichawayasi Nehethowuk (the people from where the three rivers meet and who speak the language of the four winds) that has been communicated orally for generations.

Like the traditional knowledge systems of other Aboriginal Peoples, *Ethinesewin* includes observation, classification, description and recording observations and results. The central focus of *Ethinesewin* is on relationships with and between the land, nature and people.

Nisichawayasi Nehethowuk, and in particular the Nisichawayasihk Cree Nation Elders, have been sharing *Ethinesewin* with Manitoba Hydro and Aski'otutoskeo Ltd. as an integral part of the environmental monitoring activities conducted during the construction and operational phases. Shared *Ethinesewin* is vital to ensuring the project achieves *Kistethichikewin*, the conduct of a person must adhere to the sacred responsibility to treat all things with respect and honour, according to *Kihche'othasowewin* (the Great Law of the Creator).

Nisichawayasihk Cree Nation Elders, supported by Nisichawayasihk Cree Nation youth, conducted their annual environmental inspection of the Wuskwatim Generating Station and surrounding area over a 10-day period in August. The inspection began with orientation sessions that included a review of the project's history and the results of past Nisichawayasihk Cree Nation inspections plus its relationship with the customary laws and traditional *Nehethowuk* understanding of the 13 moons and six seasons of the year. With avid discussion initiated and ongoing each day participants headed out to examine different parts of the project with a balanced perspective.

As in past years, a major focus of the group's attention was the inspection of Wuskwatim Lake and the generating station's inner forebay, now operating almost all the time at or near its full supply level. The inspection included the shoreline and erosion conditions along the forebay's north and south shores and at Wuskwatim Falls and channel improvement area. With the history of the exposing of *Nanakechewin* (artifacts) and human remains along previously developed waterways in the Wuskwatim area,

the Elders maintain that close monitoring of the affected shorelines must continue, with mitigation undertaken where necessary. The early observations of the effects of the steady water level indicate a great improvement in comparison to the effects of past developments.

At the existing Wuskwatim Lake grave sites, where modest remediation efforts have been ongoing for a number of years, the shoreline condition, trees and bank protection were all inspected, with traditional offerings provided by the Elders. Accessibility of the sites from the water remains challenging, with accumulated debris being a problem at some of the more actively eroding shorelines. The group considered possible improvements that included docking areas, regular site maintenance and grave retrieval or relocation.





ENVIRONMENTAL MONITORING

Revisiting the bioengineering and fish habitat enhancement sites that were constructed between 2010 and 2012, and comparing the shorelines with adjacent areas, the Elders noted the positive effects of the erosion protection work, including the abundant new growth at the bottoms of the slopes near the placed rock. Projects like these can help to preserve the land for future generations. Continued monitoring was advised, particularly to observe how the work will stand up over the long term to the currents and waves at the nearly steady regulated high water level.

Along the Wuskwatim access road, many signs of healthy terrestrial and aquatic life were evident. Erosion along the road's ditches and at stream crossing culverts has slowed down significantly. Natural and assisted revegetation have gradually protected the streams, but severe storms still cause some rapid erosion and sediment movement both toward and into them. Rapid-response repair of any new erosion sites that appear, as well as attention to road maintenance and repair near the stream crossings where shifting or sinking of the road base may occur, were both recommended by the Elders' group.

Nisichawayasihk Cree Nation Elders identified two sites on Wuskwatim Lake for revegetation activities.

At one site, Mostos Creek, Nisichawayasihk Cree Nation Elders requested the planting of medicinal plants such as sweet flag/rat root (Cree: *wikis*). Mostos Creek is close to Wuskwatim Village, which makes harvesting more accessible for community members.

At the second site, Wuskwatim Village, an important historical and gathering site for the community, Nisichawayasihk Cree Nation Elders requested the planting of raspberries and/or strawberries.

In June 2015, with the assistance of 11 Askí'otutoskeo Ltd. (AOL) staff, strawberry and raspberry planting took place over six days at Wuskwatim Village. Planting began with a traditional pipe ceremony that included three Elder pipe carriers and four youth from the Nelson House area, as well as AOL staff. The ceremony involved traditional singing and instruments and an offering of tobacco.

At berry and medicinal plant sites, the Elders and youth assessed the transplanting success and did some gathering. They also cleaned and trimmed the berry patch sites, concluding that a regular program of maintenance with garden tools and an expansion of the areas of the berry sites both would be worthwhile.

With the assistance of 10 AOL staff, sweet flag transplanting at Mostos Creek was conducted in July 2015. Transplanting again began with a traditional pipe ceremony that included four Elder pipe carriers and two youth from the Nelson House area. The ceremony involved traditional singing and instruments and an offering of tobacco.

The revegetation at borrow pits and at the decommissioned work camp site appears to be relatively uneven. Seedlings of white spruce, jack pine and black spruce in some of the open sandy and grubbed areas are not always doing as well as, for example, the balsam fir seedlings planted in more undisturbed areas. It was recommended that

further monitoring of these plantings be undertaken and additional methods to improve revegetation success be devised and implemented.

Regarding the Wuskwatim Lake south shore breakwater and generating station's upstream boat launch facility, the Ethinesewin inspection group continues to be pleased with the work and improvements done and facilities provided there for harvesters, environmental monitors and visitors to ensure safe access to the lake. Debris accumulation will likely continue there and need to be cleared in the busy season.

At the generating station's downstream boat launch facility, communicating water level fluctuations related to operation of the generating station is still viewed as critically important for resource users' and travellers' safety.

Overall, the Elders' assessment from their 2015 summer inspection tour of the Wuskwatim project area may be summed up as follows:

Ethinesewin is an important part of this project and life. All people must continue to observe and remember what kinds of effects our Earth is going through, find ways to live in harmony with it, and make our relationship with the land stronger. There is a place for both science and traditional ways in the development of the land to sustain the generations of the future. It is important to restore what is disturbed by a development in order to maintain that balance with the land.

For the Wuskwatim Project, the results of this approach are showing in impacted areas where nature is observed to be taking over again. In some shoreline areas, the erosion will be



continuing, but protection work should be done at some of the worst areas. Further, both traditional and newly acquired knowledge of the generating station site area should be passed along to future citizens and resource users.

BIOPHYSICAL MONITORING

Terrestrial Mammal Monitoring

Aerial Survey

A woodland caribou aerial survey was conducted within the Wuskwatim study area in February 2015, covering approximately 5,000 km². This was a follow-up to earlier surveys conducted in 2001, 2002, 2005, 2007 (pre-hydroelectric development) and in 2011 and 2012 (post-hydroelectric development). These surveys were performed to review changes in the woodland caribou population and to allow for a regional evaluation of population trends.

During the 2015 survey, 198 caribou were observed, dispersed throughout 32 groups for a density of 0.041 caribou/km². Fifty-seven caribou calves and 141 adults were observed, for a calf-to-adult ratio of 40 calves per 100 adults. Based on the 2015 population size estimates and recruitment rates, there is a stable to increasing population trend in the Wuskwatim study area.

Access Road

Mammal monitoring is being undertaken to compare pre-project, construction and operational effects on large mammals, including boreal woodland caribou, moose, black bear and gray wolf, at three locations:

along the access road, near the generating station and in an area near Harding Lake that was not affected by the project.

Baseline mammal tracking surveys were conducted prior to construction of the access road and the generating station from 2004 to 2006. Mammal surveys were also conducted during the construction period in summer and fall, from 2007 to 2009. Mammal tracking surveys for the operational phase were initiated in 2013 and continued until 2015.

Boreal woodland caribou activity levels were influenced by the construction of the access road and generating station. Overall, there was a decline in boreal woodland caribou activity in areas near the access road and generating station from 2004 to 2009. This decline is most apparent when pre-construction years (2004–2006) and construction years (2007–2009) are compared. Although caribou activity remained depressed relative to pre-construction levels, caribou activity near the access road began to show small signs of recovery during operation (2013–2015).

In most cases, moose activity declined during construction of the generating station and access road, and moose activity has continued to be depressed into operation. It should be noted that a general decline in moose activity has occurred in the region, with large declines observed in the control area (an area not affected by the project) near Harding Lake.

Black bear activity was highly variable in all years but, in general, activity decreased

during construction and then increased during operation. Black bear activity near the generating station has increased at a rate of 15 per cent each year, from 2006 to 2015.

Based on data collected to date, gray wolves rarely demonstrated changes in activity; no significant differences have been detected among the pre-construction, construction and operation periods.

Rehabilitation

Planned rehabilitation for the Wuskwatim Generation Project encompasses 545 hectares that were cleared or disturbed during construction. The rehabilitation goals for the vast majority of the rehabilitated area are regenerating native habitat and controlling erosion and invasive plants. The native habitat regeneration includes mitigation to reduce project effects on dry jack pine forest and white spruce/balsam fir forest—the two valued ecosystem components that could otherwise experience significant project effects.

As of summer 2015, rehabilitation efforts had occurred in all of the areas where treatment was required (some suitable sites are being left for natural regeneration). Depending on the location, treatments included site preparation, hydroseeding and/or tree planting. To achieve targets for rehabilitating forest habitats, 429,606 jack pine seedlings, 171,512 black spruce seedlings, 60,190 white spruce and 8,370 balsam fir seedlings were planted from 2009 to 2015. Monitoring will continue to assess the success of rehabilitation in these areas.

ENVIRONMENTAL MONITORING

Avian Monitoring

The purpose of this monitoring is to identify changes in bird abundance and distribution due to stabilized water levels, habitat fragmentation and operation-related activities, such as access road traffic.

In June 2014, breeding bird surveys occurred at 77 stops. Sixty-three stops were adjacent to the Wuskwatim access road, 10 were adjacent to borrow areas and four were in the vicinity of the Wuskwatim Generating Station. Results indicate no change to the types or numbers of breeding birds in these locations as compared to pre-project data.

Water bird surveys were undertaken in May, July and September to assess their abundance and distribution along Wuskwatim Lake and areas on the Burntwood River both upstream and downstream of the generating station. A comparison of water bird numbers and distribution from pre-project data and operational monitoring show similar trends before and after construction. Avian surveys will be undertaken again in 2016.

RESOURCE USE MONITORING

Harvest Calendar Study

A 12-month household harvest calendar study was conducted from December 2013 to November 2014 to quantify traditional resource harvest in the Nisichawayasihk Cree Nation Resource Management Area. The study was designed to compare pre- and post-project household harvesting to determine if there have been

any changes. Ninety-five households participated and 731 harvest calendars were submitted by study participants over the 12-month period.

Results indicated that the number of non-harvesting households (households that typically do not conduct harvests) has grown from 45 per cent of all households in 2001-2002 to 64 per cent of all households in 2013-2014. While the proportion of intensive (households that spent over a month harvesting) and active (households that spent a week or more harvesting) households have remained similar over the same timeframe, there are fewer occasional (households that spent at least a day or weekend harvesting) households in the community (from 32 per cent to 15 per cent). Despite these changes, overall levels of harvests have increased. Most of the increased harvest is accounted for by fish; however, waterfowl, moose and plant/berry harvests have also increased.

The seasonal timing of harvests has not changed substantively. The location of harvests has shifted from the Nisichawayasihk Cree Nation area, which included the portion of the RMA south of PR 391 covering Wapisu, Threepoint and Footprint lakes to areas north of PR 391. Use of the Wuskwatim Lake area, which included the area around the access road, Wuskwatim Lake and the Burntwood River from Kinosaskaw to Opegano Lake, and the area south of Wuskwatim Lake, has remained low. Use of this area did not increase as expected once the access road was operational.

Aquatic Effects Monitoring

Fish Turbine Passage Study

The objective of this study was to determine the condition of Lake Whitefish and Walleye passing downstream through the turbine of the Wuskwatim Generating Station. The study was conducted in September 2015 and focused on Walleye and Lake Whitefish, as these were identified as the primary species of concern with respect to their downstream movement. The effects of turbine passage were determined by introducing fish with special tags, known as balloon tags, into one of the units of the Wuskwatim Generating Station and recapturing the fish in the tailrace immediately after passage to allow their condition to be assessed.

Based on the results, approximately 90 per cent of the Walleye and 92 per cent of the Lake Whitefish are expected to pass through the Wuskwatim turbines alive. Fish that were held in pools for longer periods (48 hours) after passing through the turbines showed signs of additional stress, compared to fish assessed right after passing through the turbines and fish assessed 24 hours after passing through the turbines. All fish were held in pools before and after the treatment.

Fish Movement Study

The objective of this ongoing study is to assess downstream movement of fish through the Wuskwatim Generating Station. Ninety Lake Whitefish and 90 Walleye were captured and implanted with tags in spring 2015. Movements of the tagged fish are monitored with receivers placed in different areas in Wuskwatim Lake, downstream of the generating station, and various locations between the generating station and Opegano Lake.



ENVIRONMENTAL MONITORING



Based on data collected from 2015, only one Walleye and one Lake Whitefish have moved downstream through the generating station. The Walleye was detected by the receivers downstream of the generating station, indicating that this fish survived passage through the powerhouse. The Lake Whitefish was not detected downstream of the generating station and, therefore, it is unknown if this fish survived passage.

The overall effect of the generating station on the downstream fish population will be better determined when an estimate of current rates of downstream migration are available. This study will continue until 2018.

Mercury in Fish

It was predicted that there would be a small increase in fish mercury as a result of flooding upstream of Wuskwatim, in Lake Whitefish (up to 0.04 parts per million, or ppm), Northern Pike (up to 0.18 ppm) and Walleye (up to 0.11 ppm) and reach maximum levels of 0.14 ppm for Lake Whitefish, 0.56 ppm for Northern Pike and 0.39 ppm for Walleye. Monitoring results indicate that mercury concentrations, measured in the third summer after the forebay reached full supply level, ranged from 0.10 ppm for Lake Whitefish, 0.44 ppm for Northern Pike and 0.30 ppm

for Walleye. These results are similar to pre-project levels and, as of 2014, there was no indication of a measurable effect from project flooding and generating station operation on fish mercury concentrations in Wuskwatim Lake or further downstream. Monitoring will continue in 2016.

Soil Bioengineering on Wuskwatim Lake

Five experimental sites were chosen on Wuskwatim Lake to apply soil bioengineering techniques. Soil bioengineering uses locally available plants to help strengthen shorelines and reduce erosion. Each site used a combination of plants species placed in different locations and configurations along the shoreline. All sites were monitored again in July 2015 to compare the progress of sites across years. The Wuskwatim Monitoring Advisory Committee also visited all sites in August 2015.

To date, monitoring results indicate all of the sites showed lower levels of erosion when compared to the shoreline directly adjacent to these sites. The success of the various techniques continues to vary between sites as well as within any given site, but overall the plants placed closer to the water's edge continue to be the most successful.

PHYSICAL ENVIRONMENT MONITORING

The Physical Environment Monitoring Program (PEMP) is an adaptive program designed to measure various physical environment components that may experience some change from Wuskwatim Generating Station operations. Physical environment components addressed in the PEMP include climate, water regime, erosion, sediment transport and woody debris. The geographic area subject to PEMP monitoring includes a section of the Burntwood River upstream of the Wuskwatim Generating Station to the foot of Early Morning Rapids, including Wuskwatim Lake, and downstream to Birch Tree Lake.

Climate

To characterize climatic conditions in the Wuskwatim monitoring area, weather data from six meteorological stations within the region was analyzed. Due to the quality and length of the climate record at Thompson, this site was selected as an indicator climate station. The 2015-16 annual average temperature recorded at Thompson was warmer than 1981 to 2010 normals and total annual precipitation was slightly below normal. No new daily extreme temperature or precipitation events were recorded during this monitoring period at Thompson.



Water Regime

Flows at the Notigi Control Structure were near normal for much of the 2015 open water season and at the operating maximum for the ice-covered portions of the 2015-16 period. Wuskwatim Lake operated within its licence limits of 233.75 metres to 234 metres.

Reservoir Greenhouse Gases

Monitoring results conclude that greenhouse gas (GHG) concentrations within the Wuskwatim Reservoir are in the same range as pre-impoundment conditions. These results are consistent with Manitoba Hydro's expectations that the very small amount of flooding at Wuskwatim would have minimal impact on GHG production.

Concentrations of carbon dioxide and methane have been measured since 2008. This included monitoring for approximately four years prior to impoundment and for three years after impoundment. The monitoring program came to an end in February 2016.

Shoreline Erosion

Comparing 2015 to the previous year, annual bank recession rates at lake monitoring sites show higher average recession rates than 2014 (0.74 metres per year compared to 0.54 metres per year). Average recession rates at riverine sites were also higher in 2015 than in 2014 (0.82 metres per year compared to 0.27 metres per year).

Lake Monitoring Sites

Of the 25 unaltered sites surveyed:

- Three had negligible average bank recession rates since 2014 (less than 0.25 metres per year);
- Seven had moderate recession rates (0.25 to 0.99 metres per year); and
- 15 had recession rates greater than one metre per year.

River Monitoring Sites

Of the seven unaltered riverbank erosion sites downstream of the station:

- Five had negligible average bank recession rates since 2013 (less than 0.25 metres per year);
- None had moderate recession rates (0.25 to 0.99 metres per year); and
- Two had recession rates greater than one metre per year.

The post-project increase in erosion rates at lake sites is consistent with a predicted increase due to the project. It was also predicted that rates would decrease over time as shorelines gradually eroded back to bedrock.

Sediment Transport

Sediment transport data was collected at 19 locations upstream and downstream of the generating station in the summer of 2015. Total suspended solids (TSS), turbidity and sediment grain size data were measured at each site, however, bed load samples were not collected as no measurement could be acquired.

Flow conditions were average in 2015 and average suspended-solids concentrations and turbidity levels observed were consistent with previous years. Results for sediment-grain-size analyses were consistent with past observations in the monitoring area. The results do not indicate any changes in sediment-transport conditions at the monitoring sites.

SOCIO-ECONOMIC MONITORING

During construction, a socio-economic monitoring program was in place. Construction employment, business and income outcomes were reported and social monitoring was undertaken to follow up on the predictions of the environmental assessment. With the generating station now operating, socio-economic construction monitoring has concluded. Operational employment will be tracked through the life of the project.

During 2015-16, the majority of employees working at Wuskwatim were mechanical and electrical technicians and operating trainees. Other positions employed at Wuskwatim included utility workers, storekeepers, maintenance planners, administrative representatives and supervisory staff. As at the end of March 2016, there were 17 full-time employees and four operating technician trainees. Of these 21 employees, 10 are of Aboriginal descent.

ENVIRONMENTAL MONITORING

Indirect employment throughout the year included terrestrial and aquatic environmental monitoring during the 2015 field season, as well as tree planting in June 2015. Employment associated with this in 2015-16 resulted in more than 3,000 hours of work or approximately 1.5 person-years of employment. Tree planting efforts concluded in 2015. Since operations began to the end of 2015-16, tree planting work resulted in over 10,600 hours of work or approximately 5.3 person-years of employment. A person-year of employment is defined as one full-time job for one year, which is typically about 2,000 hours of work.

OPERATIONAL MONITORING

With the transition to operations, a 15-year, two-phase monitoring plan was developed beginning with the 2013-14 fiscal year. Phase 1, ending in 2018-19, is mapped out in detail. Once Phase 1 findings are complete and analyzed, a Phase 2 plan and schedule will be developed to cover the subsequent seven-year period ending in 2025-26.

Components	Year 3 2015/16	Year 4 2016/17	Year 5 2017/18	Year 6 2018/19	Year 7 2019/20
ETHINESEWIN MONITORING					
Traditional Knowledge Annual Tour	•	•	•	•	
BIOPHYSICAL MONITORING					
Aquatic					
Water Quality		•		•	
Fish Community		•		•	
Invertebrates		•		•	
Fish Turbine Passage	•				
Fish Movements	•		•		
Bioengineering Sites	•				
Mercury in Fish		•		•	
Terrestrial					
Birds		•		•	
Plants	•	•	•	•	
Mammals	•	•	•	•	
Resource Use					
Harvest Calendar Study				•	
PHYSICAL MONITORING					
Climate	•	•	•	•	
Water Regime	•	•	•	•	
Erosion	•	•	•	•	
Sediment Transport	•	•	•	•	
SOCIO-ECONOMIC MONITORING					
Operations Employment	•	•	•	•	

Evaluation and Adaptive Management



2015-2016 FINANCIAL REPORT

Statement of Loss

(for the year ended March 31)

(in millions of dollars)	2016	2015
Revenue	86	84
Expenses		
Operating and administrative	11	13
Finance expense	76	76
Depreciation	19	19
Amortization	6	6
Water rentals	5	4
	117	118
Net loss	(31)	(34)

Partnership Assets, Liabilities and Equity

(as at March 31)

(in millions of dollars)	2016	2015
Assets		
Property, plant and equipment	1 266	1 283
Intangible assets	282	289
Current assets	16	48
	1 564	1 620
Liabilities and Equity		
Current liabilities	23	25
Long-term debt	1 383	1 406
Partners' capital	158	189
	1 564	1 620

Partners' Capital
(as at March 31, 2016)

	Units	%	(net) Capital (in millions of dollars)
General Partner ¹	32.967	0.01	–
Manitoba Hydro	220 843.700	66.99	106
Taskinighap Power Corporation	108 790.000	33.00	52
	329 666.667	100.00	158

Operating, Financing and Investing Activities
(for the year ended March 31)

(in millions of dollars)	2016	2015
Operating Activities		
Cash receipts from customers	125	44
Cash paid to suppliers	(16)	(17)
Interest paid	(76)	(74)
Cash provided by (used in) operating activities	33	(47)
Financing Activities		
Proceeds from issue of units of WPLP	–	1
Net proceeds (repayment) of long-term debt	(23)	57
Cash provided by (used in) financing activities	(23)	58
Investing Activities		
Additions to property, plant and equipment	(3)	(12)
Additions to intangible assets	–	(1)
Other	(7)	2
Cash used in investing activities	(10)	(11)

¹ The business affairs of WPLP are carried out by a general partner (GP), 5022649 Manitoba Ltd., a wholly owned Manitoba Hydro subsidiary.



WUSKWATIM
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