



YEAR IN **REVIEW**

For the year ending March 31, 2022



WUSKWATIM
Power Limited Partnership



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Directors of the General Partner of WPLP

Marcel Moody (Nisichawayasihk Cree Nation), Jimmy Hunter-Spence (Nisichawayasihk Cree Nation), Brenda Froese (Manitoba Hydro), Quinn Menec, Chair (Manitoba Hydro), Tara Carson (Manitoba Hydro), Wesley Penner (Manitoba Hydro)



WUSKWATIM
Power Limited Partnership

Wuskwatim Power Limited Partnership (WPLP), a legal entity involving Manitoba Hydro and Nisichawayasihk Cree Nation through its wholly owned Taskinigahp 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 adds to Manitoba's generation assets, helps to meet the province's domestic needs and provides energy to export customers.



MESSAGE FROM THE CHAIR



As the new Chair of the Board of Directors I am pleased to present the 2021-22 Year in Review which highlights this year's activities of the Wuskwatim Power Limited Partnership (WPLP). Since assuming this position, I have come to appreciate the efforts, dedication, and the wisdom of all those involved in the Partnership. I would also like to recognize their resilience and ability to manage and operate the Generating Station safely and with minimal impact despite the challenges posed by the Covid-19 Pandemic. Your efforts are greatly appreciated and will continue to benefit the Partnership.

The Wuskwatim Generating Station continues to perform well and surpass industry standards. This year the average monthly unit availability factor was 97.8 per cent and forced outages occurred at a rate of 0.6 per cent which allowed us to fully maximize the use of this important asset.

The Partnership provides important business and employment opportunities. This year a NCN member was hired as a permanent utility worker which means that three of the thirteen staff working at Wuskwatim are NCN members. In addition, two members were hired this year by Manitoba Hydro's Waterways Management Program during the open water season. Despite a shorter season due to Covid-19 restrictions, the boat patrol was able to cover nearly 4,000 kilometres of shoreline.

Since the beginning of operations, ensuring that the environment is protected has been important for both Partners and comprehensive monitoring programs have been put in place to verify predictions made in the Environment Impact Statement (EIS). The first phase of the operational monitoring program has now been completed and I invite you to read the summary results as well as the recommendations for additional monitoring in Phase II.

An important component of our monitoring program involves *Ethinesewin* monitoring activities undertaken by Nisichawayasihk Cree Nation. I would like to highlight the important contribution of Elders to our environmental understanding of the Project's impacts on the environment. It was great to see the Elders' *Ethinesewin* tour resume this year after its cancellation last year due to Covid-19. Eleven Elders participated in monitoring activities and were able to observe and make recommendations on what they observed with regard to shoreline erosion, floating debris, the Moostochi Sipi Repatriation Site, and the Wuskwatim Lake Graveyard.

In 2021-2022, the WPLP achieved a notable milestone, reporting net income for the first time since the generating station became operational. The reported net income of \$15 million was significantly higher than the previous two break-even years.

Ekosani,

Quinn Menec

A stylized, handwritten signature of Quinn Menec in black ink.

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 1.60 million megawatt hours of electricity this year. Output at the generating station was as forecast and reflects normal flows. Monthly production averaged 133,226 megawatt hours, with peak production of 146,160 megawatt hours in July and a low of 111,927 megawatt hours in May.

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 had an average monthly unit availability factor of 97.8 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 had a forced outage rate of 0.6 per cent, a measure of the frequency of electrical or mechanical problems that remove a unit from service. The total of 148.4 hours of unit forced outage time is 0.6 per cent which is lower than the 1 per cent target.

MAINTENANCE AND REPAIRS

In May 2021 the three-year maintenance was done on unit 1.

In October 2021, Units 2 and 3 were taken out of service to test the unit fire deluge systems.

In October 2021, Units 1 and 3 were taken out of service to align/adjust the turbine operating ring.

DIRECT CONTRACT OPPORTUNITIES

A service agreement is in place with Nisichawayasihk Construction Limited Partners (NCLP) for the provision of equipment rentals and contract labour for work on the Wuskwatim roads. The contract is in effect until July 31, 2023.

SAFETY

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



NAVIGATION SAFETY

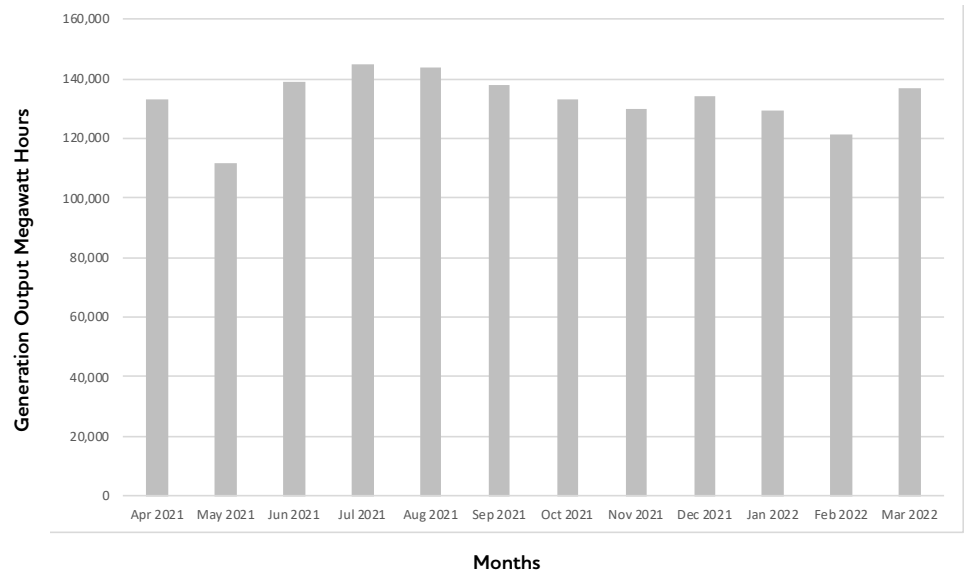
During the 2021 open water season, two Nisichawayasihk Cree Nation members were hired through Manitoba Hydro's Waterways Management Program to patrol Wuskwatim Lake and gather data on debris type and quantity.

Due to the pandemic and restrictions, boat patrol ran a shorter season (approximately 21 weeks), resulting in 3,990 kilometres of shoreline patrolled. This work will continue during the 2022 open water season.

PLANT TOURS

Due to COVID, no plant tours were conducted for 2021-2022.

Wuskwatim Monthly Net Generation Output



ENVIRONMENTAL MONITORING

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 Indigenous 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 NCN Elders, have been creating an understanding through *Ethinesewin* with Manitoba Hydro and Aski 'Otutoskeo Ltd (AOL) as an integral part of the environmental monitoring activities conducted since the beginning

of the Project. Communicating *Ethinesewin* is vital to ensure the project achieves Kistethichikewin, meaning the conduct of a person must adhere to the sacred responsibility to treat all things with respect and honor, according to Kihche'othasowewin (the Great Law of the Creator).

Prior to field work starting for the season, all staff participated in a three-day safety orientation and CPR session held at the Gilbert McDonald Arena.

A five-man crew was hired to take on the duties and responsibilities of the yearly *Ethinesewin* Monitoring Program. The overgrown brush was cleared to the repatriation site by the Wuskwatim Village camp site. Yard work and maintenance of the buildings at Wuskwatim Village also took place. Shoreline debris management of the Wuskwatim Boat Launch area and

Wuskwatim Village shoreline is now part the annual seasonal work. Every morning, part of the crew went by boat to monitor the water levels, fallen in trees, and floating debris.

Ethinesewin crew members visited the 2017 repatriation site, also known as cow grazing bay (Mostos Sipiy) and made a visit to Early Morning Rapids for prayers and offerings of food and tobacco for our ancestors.

One Elders' tour was held this year with 11 Elders participating. They stayed at the Wuskwatim Village campsite for seven days and their monitoring activities included the following:

Shoreline Erosion

While travelling from Wuskwatim boat launch to Wuskwatim Village, the Elders felt there was an incredible amount of erosion to shoreline. The fallen trees were relatively new as they were still in leaf and old debris had been loosened



from the shoreline due to high water levels. The Elders expressed the view that a bigger problem will arise if this issue is not addressed.

Floating Debris

NCN *Ethinesewin* Elders were concerned about the large amount of floating debris on Wuskwatim Lake and suggested that this area to be cleared under the Debris Management Program.

Wuskwatim Village Shoreline Erosion

The Elders were pleasantly surprised when they arrived at Wuskwatim Village to see the shoreline clearing that had taken place. The *Ethinesewin* monitoring crew cleared away standing timber twenty metres back from the crown extending in length to the NCN commercial fisherman icehouse.

Wuskwatim Lake Moostochi Sipi Repatriation Site

The NCN *Ethinesewin* Elders who participated in the tour and assessment of the repatriation site expressed concern that the site has been overtaken by underbrush. The debris piles left from the initial clearing were still there. The accumulation of woody debris in Moostochi sipi shoreline is alarming because this site has special significance to the Elders. The Elders recommended that more attention and care should be given to this work and that it be included in the AOL field crew's workplan on an annual basis.

Wuskwatim Lake Graveyard

There were numerous requests made by Elder Matilda Linklater to visit Wuskwatim Lake specifically the Wuskwatim Lake Graveyard where she has five brothers buried. The NCN Elders immediately went to work and planned a feast in honour of Matilda Linklater's brothers. The trail that

leads from Wuskwatim Village to the Wuskwatim Graveyard was cleared of fallen timber and willow overgrowth to ensure a safe walking path for the Elders.

Participating NCN Elders this year included:

- George Wood
- Lena Dysart
- Lydia Linklater
- Matilda Linklater
- Sam Dysart
- Clifford Spence
- Fredrick Hart
- James Spence
- John Peter Spence
- Jonathan Wood
- Matthew Wood

Volunteers:

Shannon Yetman
Leona Linklater

As always, the Elders that participated enjoyed and appreciated their involvement in the monitoring.



Results of Phase I aquatic monitoring and recommendations for Phase II monitoring were presented in the 2021 Year in Review report. Many of the aquatic effects were expected to occur in the first five years of operations. Phase I aquatic monitoring results have been in line or less than what was predicted in the Environmental Impact Statement and therefore, many of the components will no longer require project specific monitoring. However, to continue to build on the long-term data set for Wuskwatim Lake and to track aquatic ecosystem health over time, monitoring will continue on Wuskwatim Lake under the Manitoba Hydro/Manitoba Coordinated Aquatic Monitoring Program (CAMP). CAMP is a system-wide environmental monitoring program that tracks aquatic ecosystem health along Manitoba Hydro affected waterways.

TERRESTRIAL EFFECTS MONITORING PLAN

Summary of Phase 1 Operational Monitoring Results

As part of the Wuskwatim Environmental Impact Statement (EIS), a Terrestrial Effects Monitoring Plan (TEMP) was developed. This plan provides for comprehensive monitoring of the terrestrial environment. The intent of these studies is to compare current conditions to those prior to construction of the generating station and to predictions in the Wuskwatim EIS. The following is a summary of results from the first phase of terrestrial operational monitoring as well as recommendations for additional monitoring (referred to as Phase II monitoring).

Birds

Bird monitoring was conducted to (1) evaluate the effects of habitat loss and alteration and sensory disturbance on breeding birds near the access road; (2) monitor effects of the water regime changes on the abundance and distribution of waterfowl and (3) estimate bird collisions with the communication tower and transmission line to determine if additional mitigation measures were required. Monitoring results indicate adverse effects on birds during operations were as predicted in the EIS, and that none were significant or unexpected. There was no evidence that sensory disturbances from the access road adversely affected breeding bird abundance or distribution. Waterfowl density and distribution did not appear to be affected by Project operation. The effect of increased hunting pressure on



waterfowl was less than anticipated. However, water level stabilization on Wuskwatim Lake did not result in the expected increase in waterfowl productivity. Results from bird collision studies were also in line with EIS predictions and no evidence of federally or provincially listed threatened or endangered bird species mortality was found.

Recommended Phase II Monitoring

No further breeding bird or waterfowl monitoring is recommended unless there is a substantial increase in the number of resource users and corresponding increased waterfowl harvest at Wuskwatim Lake. As the risk of bird collisions with the communication and transmission towers is small, no mitigation measures are required.

Mammals

Several studies were conducted to monitor Project effects on mammals and their conformity with EIS predictions, and to identify unexpected effects. Programs consisted of boreal woodland caribou population monitoring; terrestrial mammal monitoring along the access road; population monitoring for beaver and muskrat; and mercury monitoring in aquatic furbearers. A roadside survey was

added to monitor mammals' attraction to alfalfa, which was inadvertently included in a seed mixture used to reseed the ditches along the Wuskwatim access road. Long-term, negative Project effects on mammals were predicted to be mainly associated with the physical loss of habitat and avoidance of habitat due to sensory disturbance. Generally, adverse effects on mammals were as anticipated. However, there was less caribou activity near the generating station and access road than expected during operation. Contrary to EIS predictions, there was no substantive increase in resource harvesting in the Wuskwatim Lake area due to the access road. Following reservoir impoundment, relatively stable upstream water levels had a small, positive effect on active beaver lodge density, as expected. Water level fluctuations downstream of the generating station had a neutral effect on active lodge density where a negative effect was anticipated. There were no changes in mercury levels on aquatic furbearers and mammals did not appear to be attracted to alfalfa near the access road

Recommended Phase II Monitoring

To determine if caribou activity near Project infrastructure continues to recover to pre-construction levels and

that no unexpected long-term effects have occurred, monitoring will take place in 2022, 2023, and 2024, and may be discontinued if activity levels stabilize. If caribou activity remains depressed, monitoring should continue every five years and be re-evaluated in 2030. Concurrent studies for moose, black bear, and gray wolf will also be conducted.

Because the local beaver population may still be adjusting to the altered habitat upstream and downstream of the generating station and because neutral instead of negative effects were observed downstream, an aerial beaver survey will be conducted in 2022 to confirm that the beaver population remains stable and to verify predictions downstream of the generating station. If no change is detected, beaver population monitoring will be discontinued. If a substantial decline in the population is noted in 2022, monitoring will resume in 2025 and be re-evaluated every three years until 2030. Because no future effect on mercury concentrations in fish is anticipated, no further monitoring of mercury in aquatic furbearers is required.



ENVIRONMENTAL MONITORING

Terrestrial Habitat

Terrestrial habitat monitoring was implemented to (1) assess Project effects on habitat and ecologically sensitive sites (provincially very rare or uncommon plants) due to habitat loss, major physical disturbance and habitat alteration through clearing, infrastructure construction, flooding and water regulation and Project activities (traffic on access road); (2) monitor the success of habitat regeneration and revegetation efforts; and (3) assess Project effects on the fire regime.

Monitoring results indicate that effects on terrestrial habitat were lower than predicted, and generally considerably lower. Overall, predicted effects on habitat

were 57 per cent lower as the Project footprint was smaller than anticipated. To date, 97 per cent of the area targeted for habitat regeneration is on a pathway to reach the regeneration goals. To date there have been no Project effects on the fire regime.

Recommended Phase II Monitoring

Further monitoring of the habitat regeneration areas will take place to ensure commitments related to habitat regeneration goals are met. This monitoring will take place in 2022 and 2029. Results from 2029 will be used to determine whether this monitoring be continued.

Shore Zone Monitoring

Shore zone monitoring included assessing effects of the Project on habitat in the shore zone, lake peatlands and mineral islands resulting from flooding, water regulation and infrastructure works (e.g., installation of rip-rap for erosion control). The EIS predicted that the altered water regime would reduce the size of the beach and shallow zones. In turn, these changes would alter shore zone habitat composition as well as the distribution and abundance of many plant species over the medium to long-term.

To date, monitoring found that the only shore zone habitat lost to flooding was in the forebay. The Project effects on shore



zone habitat were small, which was expected given the relatively short period of time (it takes longer to detect changes to habitat composition). There has been very little change in the distribution of shore zone vegetation. Upstream of the generating station, there were small increases in the distribution of marsh vegetation including common cattail. Downstream of the generating station, there has been very little change in shore zone vegetation distribution or composition, which is in line with EIS predictions. For peatlands, the rate of total area loss during the first few years of operations was higher than predicted but the annual rate of loss is now approaching zero.

Recommended Phase II Monitoring

Further shore zone and lake peatland monitoring is recommended as insufficient time has passed for major vegetation and soil responses to have been detected. As well, changes to shore zone habitat have a very important influence on wildlife, including species especially important to NCN members (waterfowl, moose) and species at risk (e.g., rusty blackbird). Shore zone habitat will be monitored in 2023 and 2030, and lake peatlands in 2022 and 2029. Following the 2030 monitoring, results will be reviewed to determine whether this monitoring should be continued.

Invasive Plant Distribution and Abundance

Invasive plants are a concern because they have the potential to cause adverse effects on natural ecosystems. They can crowd out other plant species and, in extreme cases, change vegetation composition. They can also alter other ecosystem attributes such as soil conditions.

The EIS predicted that the Project was not expected to significantly increase the risk that invasive or other non-native plants would crowd out sensitive species or change terrestrial habitat composition.

Plant monitoring included documenting the introduction and spread of non-native plants. To date, effects have been higher than predicted in the EIS for non-native



ENVIRONMENTAL MONITORING

plants. In the construction footprint, one non-native species (alfalfa) was introduced to access road ditches during revegetation because it was inadvertently included in the seed mix. By year 7 of operational monitoring, alfalfa was widespread and generally abundant along roadsides and in the sewage lagoon, and common in the camp and work areas. Expansions in the distribution and abundance of non-native plants in the construction footprint from 2012 to 2017 were greater than predicted in the EIS. However, there were positive signs that non-native plants may have peaked by summer 2017 in some Project footprint components. The amount of desirable plant species regeneration has increased so therefore it is expected that that desirable species will eventually reduce non-native plant cover.

No evidence was found up to year 5 of operation to indicate that any non-native plants besides alfalfa were spreading into undisturbed native habitat adjacent to the Project footprint. Alfalfa was found in one small site in 2015, but no additional sites since then.

Recommended Phase II Monitoring

Two recommendations for Phase II invasive plant monitoring are made because non-native species are an ongoing concern, the degree of Project effects were higher than expected and NCN Elders have expressed concern that alfalfa could adversely affect tree regeneration.

Two future surveys of non-native plants will be completed including the roadsides, along the northwest forebay shoreline,

the former sewage lagoon area, and the habitat regeneration areas (i.e., the cleared areas with forest or woodland as the target vegetation type). The non-native plant surveys will be completed in 2023 and 2028.

Future monitoring will take place at sites where efforts are being made to control invasive plants. This monitoring will provide valuable additional information regarding which control measures work best for local conditions.



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. The 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.

The initial PEMP, developed in 2007, identified that the program would be adaptive and modified based on results on an ongoing basis. Future monitoring will be less intensive than it has been to date. Climate and water regime data will continue to be collected on an ongoing basis. Shoreline erosion will be examined at five-year intervals and sediment transport parameters will no longer be monitored as they have returned to pre-Project levels.

Climate

To characterize climatic conditions in the Wuskwatim monitoring area, weather data from the Environment and Climate Change Canada station at Thompson was analyzed. The 2021-22 annual average

temperature recorded at Thompson was 0.7°C cooler than 1981 to 2010 normals and total annual precipitation was 74 mm below normal.

Water Regime

Flows at the Notigi Control Structure were reduced in the early spring to mitigate local inflow during the spring melt and returned to the operating maximum in late June for the remainder of the monitoring period. Wuskwatim Lake operated within its licence limits of 233.75 to 234.0 metres.





SOCIO-ECONOMIC MONITORING

Operational employment is being tracked through the life of the Project.

Direct Employment

At the end of March 2022, there were 13 staff working at Wuskwatim, of which three self-identified as NCN members.

Indirect Employment

There is no indirect employment to report for the 2021-2022 field season.

With Phase 2 monitoring components now developed it should result in the employment of field workers during the summer of 2022.





PHASE 2 OF OPERATIONAL MONITORING

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ETHINESEWIN MONITORING										
Traditional Knowledge Annual Tour										
	X	X	X	X	X	X	X	X	X	
BIOPHYSICAL										
AQUATIC										
Aquatic Habitat	X									
Fish Community	X			X			X			
No Net Loss Plan	X			X			X			
TERRESTRIAL										
Beaver Population	X									
Habitat Regeneration	X							X		
Mammals	X	X	X							
Shore zone Habitat		X							X	
Peatland Habitat	X							X		
Invasive Plants		X					X			
PHYSICAL MONITORING										
Climate	X	X	X	X	X	X	X	X	X	X
Water Regime	X	X	X	X	X	X	X	X	X	X
Erosion				X					X	
Sediment Transport				X					X	
SOCIO-ECONOMIC MONITORING										
Operations Employment	X	X	X	X	X	X	X	X	X	

Summary report preparation

2021–2022 FINANCIAL REPORT

Statement of Income (for the year ended March 31)

(in millions of dollars)	2022	2021
Revenue	124	112
Expenses		
Operating and administrative	7	7
Finance expense	75	76
Depreciation	18	18
Amortization	4	6
Water rentals	5	5
	109	112
Net income	15	–

Partnership Assets, Liabilities and Equity (as of March 31)

(in millions of dollars)	2022	2021
Assets		
Property, plant and equipment	1,162	1,179
Intangible assets	249	253
Deposit for debt retirement	22	11
Current assets	65	41
	1,498	1,484
Liabilities and Equity		
Current liabilities	24	23
Long-term debt	1,371	1,373
Partners' capital	103	88
	1,498	1,484

Partners' Capital
(as of March 31, 2022)

	Units	%	(net) Capital (in millions of dollars)
General Partner ¹	32.967	0.01	–
Manitoba Hydro	220,843.700	66.99	69
Taskinighap Power Corporation	108,790.000	33.00	34
	329,666.667	100.00	103

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

(in millions of dollars)	2022	2021
Operating Activities		
Cash receipts from customers	124	109
Cash paid to suppliers	(10)	(13)
Interest paid	(76)	(76)
Interest received	1	–
Cash provided by operating activities	39	20
Financing Activities		
Repayment of long-term debt	(2)	(2)
Cash used for financing activities	(2)	(2)
Investing Activities		
Additions to property, plant and equipment	(1)	(2)
Proceeds from disposition of assets	–	2
Term investment	(25)	(7)
Deposit for debt retirement	(11)	(11)
Cash used for investing activities	(37)	(18)

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



WUSKWATIM
Power Limited Partnership

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