RESPONSE TO DIRECTIVE #13 - ORDER 73/15

For the Quarter Ended March 31, 2018

13. Manitoba Hydro shall file detailed quarterly reports for all Major New Generation and Transmission projects, including the ones currently under development. These reports are to outline the proposed budget (at time of contract), budget changes and reasons for such changes, and the revised projected in-service costs. Where capital costs have increased materially, Manitoba Hydro is to explain how such increases will impact domestic revenue requirements and projected impacts on Manitoba Hydro's financial forecasts and targets.

Response:

The following figure summarizes the total project costs for the Major New Generation & Transmission Projects (MNG&T) in CEF16 and CEF18, as well as the reasons for revisions between the forecasts. The table also provides the actual project costs and status for each project to March 31, 2018.

Several MNG&T projects included in CEF16 have now been completed (with remaining project completion activities transferred to Business Operations Capital, where applicable) and as such are not classified as MNG&T in CEF18, including Wuskwatim – Generation, Kelsey Improvements & Upgrades, Kettle Improvements & Upgrades, and Pointe du Bois Spillway Replacement.

In addition, the Grand Rapids Fish Hatchery Upgrade & Expansion project has been reclassified to Business Operations Capital in CEF18, as this project is required for licensing of existing generating stations and new national and provincial regulatory requirements for water quality and biosecurity applicable to the integrated system in addition to the licensing requirements for Keeyask. Therefore, it is best considered as a project in support of ongoing operations.

Similarly, all future investment requirements related to the Gillam Redevelopment and Expansion Project (GREP) will also be raised as Business Operations Capital items. The scope of GREP is anticipated to be reduced and any future Gillam townsite maintenance or expansion requirements will be justified as projects on their own and brought

forward for approval under Business Operations Capital. Therefore, it is best considered as a project in support of ongoing operations.

Accordingly, the table below does not include updated forecast amounts for completed projects, the Grand Rapids Fish Hatchery or GREP, as they are no longer included in MNG&T. Commencing in the first quarterly report for 2018/19, Manitoba Hydro will no longer provide the summary table below and will provide project reports for Bipole III, Keeyask, the Manitoba-Minnesota Transmission Line, and the Birtle Transmission line.

Appendices I, II and III provide information on the budgets and current status for the Bipole III, Keeyask, and the Manitoba-Minnesota Transmission Line, respectively.

Figure 1. Total Project Costs for Major New Generation & Transmission Projects in CEF18
March 2018 Quarterly Report
(in millions of dollars)

-	Total Project CEF16	Total Project CEF18	Change in Total Project Inc/(Dec)	Reasons for Revision	Actual to Date	Project Status
Wuskwatim - Generation	1,421.6	N/A	-	The project was complete in 2017/18.	1,416.8	The project is now complete. The decommissioning of the temporary power supply substation in 2018/19 will be raised within Generation's Business Operations Capital.
Keeyask	Refer to Keeyask Quarterly Report Update (Appendix II).					
Grand Rapids Fish Hatchery Upgrade & Expansion	23.5	N/A	-	The Grand Rapids Fish Hatchery Upgrade & Expansion has been transferred to Business Operations Capital in Generation in CEF18, effective April 1, 2018.	4.4	A review of project alternatives has been completed and the refined project scope has been established, with completion scheduled for the third quarter of 2018/19.
Kelsey Improvements & Upgrades	336.9	N/A	-	The project was complete in 2017/18.	325.6	The project is now complete. Future expenditure requirements associated with the sewage lagoon will be justified and approved within Generation's Business Operations Capital.
Kettle Improvements & Upgrades	112.2	N/A	-	The project was complete in 2017/18.	106.4	The project is now complete.

-	Total Project CEF16	Total Project CEF18	Change in Total Project Inc/(Dec)	Reasons for Revision	Actual to Date	Project Status
Pointe du Bois Spillway Replacement	575.7	N/A	-	The project was complete in 2017/18.	567.5	Minor deficiency work was completed. The project is now complete. Any future work requirements will be raised within Generation's Business Operations Capital.
Gillam Redevelopment and Expansion Program (GREP)	266.5	N/A	-	The Gillam Redevelopment and Expansion Program (GREP) is considered complete as at March 31/18. The Gillam Community Centre Redevelopment was transferred to the Human Resources & Corporate Facilities Business Operations Capital effective April 1, 2018 and all other future upgrades and enhancements within the Town of Gillam will be justified and approved within Generation Business Operations Capital.	73.0	Work continued on the replacement of 3 double wide trailers and a housing retrofit during the fourth quarter. Fire remediation work and redevelopment of the Gillam Community Centre began in January and is being completed in unison to minimize the impact to the project schedule. Substantial building completion is scheduled for March 2019. Insurance is expected to cover all costs resulting from the fire.
Bipole III Transmission Reliability Project	Refer to Bipole III Quarterly Report Update (Appendix I).					
Manitoba-Minnesota Transmission Project	Refer to Manitoba-Minnesota Transmission Quarterly Report Update (Appendix III).					

-	Total Project CEF16	Total Project CEF18	Change in Total Project Inc/(Dec)	Reasons for Revision	Actual to Date	Project Status
Birtle Transmission	56.5	56.5	-	No Change. The project, previously titled Manitoba-Minnesota Transmission Project, was renamed to Birtle Transmission.	2.5	The environmental assessment was filed with the Manitoba Environmental Approvals Branch on January 31, 2018. Design activities for Transmission Line B71T are continuing, precise mapping is complete. Birtle South Station design and procurement activities are in progress with most major apparatus have been ordered.

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Bipole III, Keeyask and MMTP Project Reports

Given the size and importance of these projects, Manitoba Hydro is providing additional information on the current status of its largest active Major New Generation and Transmission Projects, namely Bipole III, Keeyask, and the Manitoba-Minnesota Transmission Line projects, in Appendices I, II and III, respectively.

The contingency amounts contained within the control budget, and the information on contract values and capital expenditures by contract to date that is found in Appendices I and II, are highly confidential and commercially sensitive. Manitoba Hydro is filing this information in confidence as public disclosure would harm Manitoba Hydro's ability to manage and execute the work according to the commercial terms agreed to by contract and would certainly affect future negotiations.

Manitoba Hydro's contingency budget is applied to the construction contracts in a manner that reflects the risks and probable occurrence of those risks. Should the risks materialize, the contingency is available to cover additional costs; however, should the risks not materialize, the contingency would not be spent and the funds would be available for other potential risk events in subsequent stages of the project.

Manitoba Hydro Update on Major Projects to the Public Utilities Board

Bipole III Project Update

Q4 Update ending March 31, 2018

Bipole III S2 Final Jumper Connection outside Riel Converter Station

EXECUTIVE SUMMARY

Project Description

Bipole III is a high voltage direct current transmission project under construction that will deliver renewable energy to southern Manitoba once complete later this year.

The Bipole III project includes:

- A 1,384-kilometre, 500,000-volt direct current transmission line;
- The Keewatinohk Converter Station in northern Manitoba, northeast of Gillam;
- The Riel Converter Station, east of Winnipeg;
- 230 kV collector lines (5); and,
- Two ground electrodes at each of the new converter stations.

Bipole III adds 2,000 megawatts to Manitoba Hydro's high voltage direct transmission and will strengthen the reliability of Manitoba's electricity supply by reducing dependency on existing high voltage direct current transmission lines and the Dorsey Converter Station. Currently, the two existing Bipole lines deliver over 70 per cent of the electricity produced in the province.

Due to its heavy reliance on one transmission corridor and a single converter station in the south (Dorsey), Manitoba Hydro's electricity system is vulnerable to extensive power outages from severe weather (major ice storm, extreme wind event, tornado), fires, or other events. The Riel Converter Station will establish a second converter station in southern Manitoba, to provide another major point of power injection into the transmission and distribution system.

Background

The Bipole III Project Environment Act Licence was issued August 14, 2013. In fall 2016, a review of the Bipole III budget and schedule was conducted and the budget was increased to $5.04 billion with an in-service date of July 2018.

Keewatinohk and Riel Converter Stations

The Bipole III transmission line originates at a new northern converter facility, the Keewatinohk Converter Station, and terminates at a new southern converter facility, the Riel Converter Station. In addition to the new transmission line and the new converter stations, the project includes new collector lines linking the Keewatinohk Converter Station to the northern collector system at the existing switchyards at Henday Converter Station and Long Spruce Generating Stations. Each of those facilities required some modifications for these new "collector lines". Each of the new converter stations required the development of a separate ground electrode, connected to the station by a low voltage feeder line.

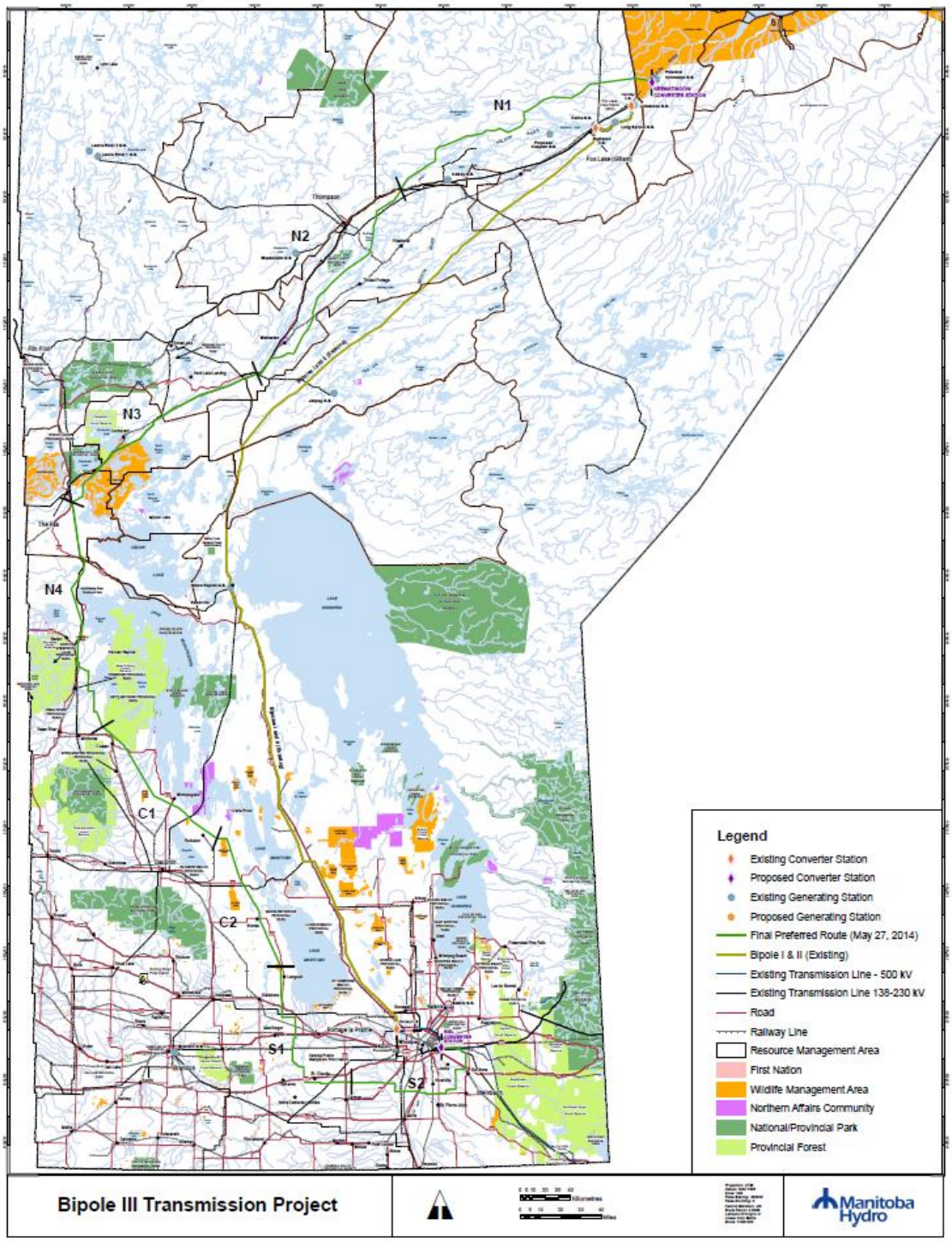
The Keewatinohk Construction Power Station and line went into service July 2014. The Keewatinohk Lodge, a 600 person work camp to house the required construction workforce for the converter station has been fully operational since 2015.

The Riel Converter Station is being constructed at the same site as the Riel Sectionalization Project.

Transmission Line Construction
The Keewatinohk Converter Station and the Riel Converter Station will be linked by a new +/- 500 kV HVDC transmission line approximately 1,384 km in length, centered on a 66 meter wide right-of-way following a route west of lakes Winnipegosis and Manitoba. This new transmission line has been routed as far as practical, sufficiently far from the existing Bipole I and II lines so as to decrease the probability that a single catastrophic weather event or natural disaster would damage both the new transmission line and Bipoles I and II.

Below please find a map of the transmission line segments.

Map of the Bipole III Project



PROJECT UPDATE

Converter Station Construction:

- Construction of the Bipole III converter stations is approximately 97% complete with work focused on the remaining work for the synchronous condensers at the Riel Converter Station, deficiency work at both stations and commissioning of the project to fully integrate it into the Manitoba Hydro system.

Commissioning of the Keewatinohk and Riel Converter Stations:

- HVDC Commissioning:
  - The Bipole III transmission line was linked to the Riel and Keewatinohk Converter Stations on March 31st.
  - As part of the testing process, commissioning crews successfully energized each station fully from the converter transformers to the valve hall to the DC yard on April 2nd, for the first time delivering 50 megawatts from the Keewatinohk Converter Station to the Riel Converter Station.
- Synchronous Condenser Commissioning:
  - The four synchronous condensers are 360,000-kg machines that rotate at 1,200 rpm and help stabilize Manitoba Hydro's system.
  - Synchronous Condenser 1- reached full speed during testing in March, performing as expected even at over-speed testing.
  - Synchronous Condenser 2 – Load tests, load rejection and reactive capability tests have now been completed.
  - Synchronous Condenser 3 – Completion of the start/stop sequence testing and ongoing unit pressure tests. Hydrogen filling is scheduled for mid-April, with online testing to follow.
  - Synchronous Condenser 4 – Unit transformer pre-energized testing and ground fault testing are underway.
- Keewatinohk 230 kV Switchyard:
  - The switchyard was successfully energized, some deficiency correction work remains.
  - All five collector lines are now in service for full AC inlet to Keewatinohk, which is required for HVDC commissioning over the next few months.

Transmission Line:

- As of March 31, 2018 the construction of the Bipole III 500kV Transmission Line was completed and turned over for commissioning on March 31, 2018. By reallocating work between resources, and through rigorous monitoring and control, Manitoba Hydro was able to ensure successful completion of construction in time for commissioning.

- Forbes Brothers Ltd. (FBL) - Sections N2, N3, S1 and S2:
  - Stringing work resumed in January for Sections N2, N3, and S1 (S2 previously completed). Remaining tower assembly and erection activities (primarily in N3) were completed in February.

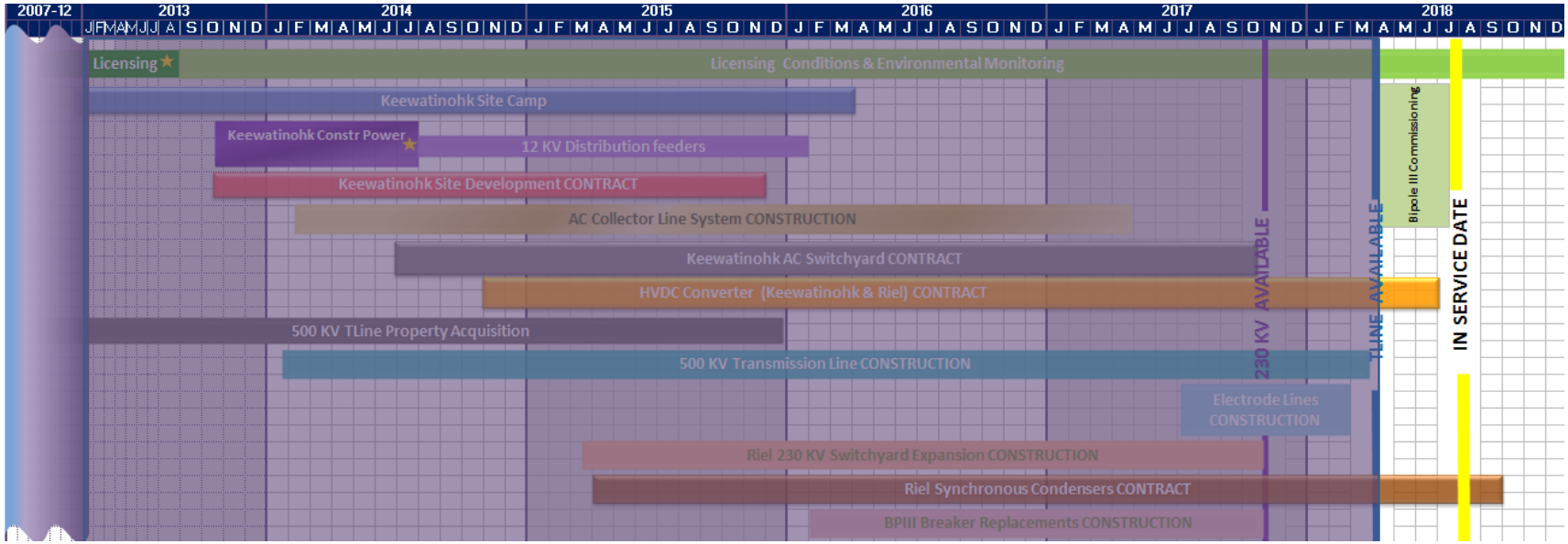
  - January was a slow start, but work progressed through February and March. Overall, despite being behind plan and pushing schedule completion dates further into March than targeted, the work was completed (as a result of less deficiencies) before the end of March. Final inspections and all deficiencies that would impact the start of commissioning activities were corrected enabling the issuance of the Taking Over Certificate March 31st. Outstanding deficiency remediation work is ongoing.

- Rokstad Power Company (RPC) - Sections N1, N4, C1 and C2:
  - Work this quarter continued with tower assembly operations in N1 and N4, the last of which was completed the 3rd week of March.
  - Stringing activities and final inspection for section C2 were completed in January, enabling RPC stringing crews from C2 to return to section C1. However, RPC's rate of progress continued to lag plan on overall stringing scope, and although a significant amount of conductor was in the air, back end stringing activities and spacer damper crews struggled to maintain pace. Further notice to correct was issued to RPC, and by February 23rd an additional segment of stringing work was removed from their scope in section N1.
  - Construction activities concluded with the balance of stringing completed in late March, behind target and plan, but in time to turn over for commissioning. Final inspections and all deficiencies that would impact the start of commissioning activities were corrected enabling the issuance of the Taking Over Certificate March 31st. Outstanding deficiency remediation work is ongoing.
- Valard – Section N1:
  - Work resumed in January with installation of foundations, and tower assembly and erection. Foundations were completed in early February.
  - Stringing operations commenced in January. Slower than planned progress experienced in January, in combination with the additional work awarded to Valard during February, impacted the planned completion date, shifting it from early to mid-March.
  - Construction activities concluded with the balance of stringing completed during March. Final inspections and all deficiencies that would impact the start of commissioning activities were corrected enabling the issuance of the Taking Over Certificate March 31st, with the remaining deficiencies for correction expected to be completed in April.
- Non-destructive testing of all tower sleeves was completed for the whole line; a total of 11,496 sleeves were inspected. Findings overall included a 1.1% failure rate, or 120 non-conformant guy cable sleeves, all of which have been replaced.

Collector Lines:

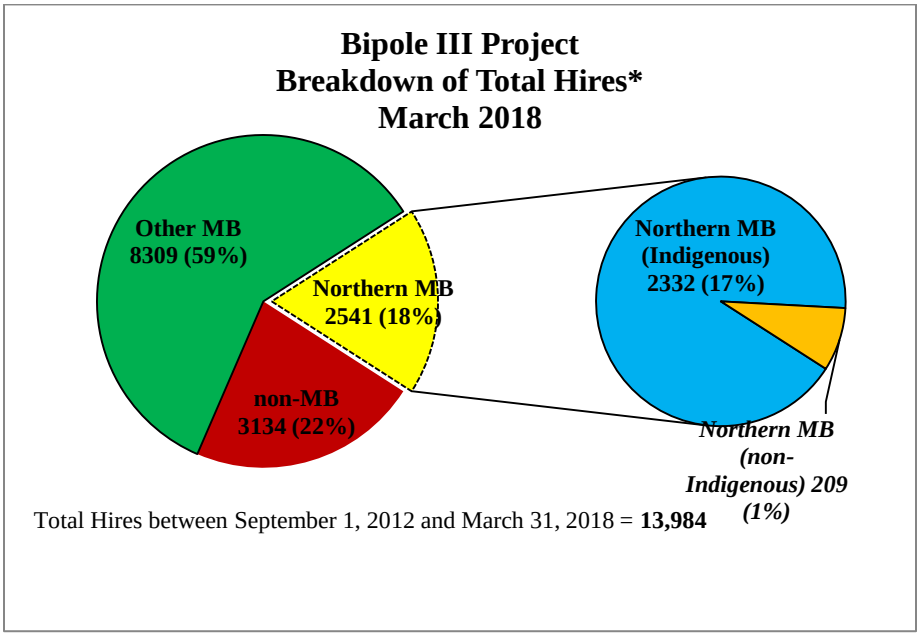
- AC Collector Lines (5 - 230 KV transmission lines):
  - TCN/Forbes Bros. Joint Venture completed the assembly all remaining towers for L61K during January. In addition, stringing the remaining spans also resumed in January. The final stringing of the L61K line was completed during mid-February.
  - 5 spans of the L61K line had to be re-strung in March, as the conductor used in the original installation was defective. The line has since been re-commissioned and placed back into service.
- Henday station upgrades:
  - Work completed during February included the installation of the final jumpers.
  - Only minor deficiency clean-up remains.
- Long Spruce station upgrades:
  - The new L46H cable was tested, commissioned and energized in February.
  - Only minor deficiency clean-up remains.
- Riel and Keewatinohk Electrode lines:
  - Work completed.
- Limestone to Keewatinohk Secondary Communication Line:
  - Crown Utilities completed the installation of the conduit.
  - Works remaining include pulling the balance of fibre and installing the remaining vaults. Telecommunications has begun to splice the installed fibre.
- R49R Sectionalization:
  - Sectionalization of the line is complete.
- Dorsey PCM Upgrades:
  - Remaining work includes the salvage of the Dorsey to Whiteshell Cross Trip scheme – scheduled for completion 6 months post BPIII in-service date.

Bipole III Schedule Overview – March 31, 2018



Total Hires: – as of March 31, 2018

- Since September 2012 there have been a total of 13,984 hires for the Bipole III Project.
- Of the total hires, 78% are Manitobans, including 18% northern Manitobans.
- Active hires: 3,235.



FINANCIAL SUMMARY

- Construction is progressing to be on budget of $5.042 billion.
- Expenditures were $4.289 billion to the end of March 31, 2018.

Table A - Bipole III Budget Summary (in Billions $)

Item #	Item	Current Approved Budget (2016$)	Actuals to Mar 31, 2018
1.1	Transmission Line	1.457	1.479
1.2	Converter Stations	2.285	2.181
1.3	Collector Lines	0.199	0.191
1.4	Community Development Initiative	0.053	0.052
1.5	Escalation @ CPI	0.052	0.000
1.6	Interest (Capitalized)	0.487	0.386
1.7	Contingency	0.509	0.000
1.8	Total	5.042	4.289

Table A Notes:

1. The Escalation and Contingency Components (1.5 and 1.7) will have no actual costs incurred against them; these costs will form part of the actual costs in the Transmission Line, Converter Stations, Collector Lines, Community Development Initiative and Interest Components (1.1, 1.2, 1.3, 1.4 and 1.6).

PICTURES

Photo 1: Final Jumper connections, N1 Tower #1 at Keewatinohk Converter Station

Photo 2: Riel Converter Station

Photo 3: Bipole III N1 Stringing Operations – Implosive Sleeve Detonation

Photo 4: S2 Tower #7338 RCS Final Jumper Installations March 31, 2018

Manitoba Hydro Update on Major Projects to the Public Utilities Board

Keeyask Project Update

Q4 Update ending March 31, 2018

EXECUTIVE SUMMARY

- Despite improvements and achieving critical milestones in the 2017 season, further improvement in performance of approximately 10% by the General Civil Contractor (GCC) is still required on the Keeyask Project to meet control budget ($8.7B) and achieve in service dates for the units that are in advance of the control schedule of August 2021. This also assumes that no significant risks materialize with other contracts or risks that could impact the critical path. Manitoba Hydro is confident that this rate of improvement is attainable as it is similar to the year-over-year improvement between 2016 and 2017.
- The control budget for the project remains at $8.7B. There are no changes in budget that would impact domestic revenue requirements or Manitoba Hydro's financial forecasts.
- In the last quarter, concrete placements on the Powerhouse Complex and work on the South Dyke were completed as planned.
- At the end of March 2018, approximately half of the concrete required for the Keeyask Project was placed.
- Actual expenditures to the end of March 31, 2018 were $4.51 billion.

PROJECT UPDATE

Background

- The Keeyask Generating Station is a 7 unit, 695-megawatt hydroelectric generating station under construction at Gull Rapids on the lower Nelson River in northern Manitoba.
- The Keeyask Project includes construction of the generating station as well as construction of supporting infrastructure. Most of the infrastructure was constructed in advance of the generating station under the Keeyask Infrastructure Project (KIP). The Keeyask Project is a collaborative effort between Manitoba Hydro and four Manitoba First Nations, working together as the Keeyask Hydropower Limited Partnership.
- Keeyask will be Manitoba's fourth largest generating station and the sixth on the Nelson River.
- Construction of the Keeyask Generating Station commenced on July 16, 2014 after receipt of all required licenses and approvals.
- The General Civil Works contract, the largest contract on the project, was awarded to BBE Hydro Constructors Limited Partnership consisting of Bechtel Canada Co., Barnard Construction of Canada Ltd. and EllisDon Civil Ltd. The General Civil Works contractor is responsible for rock excavation, concrete for the powerhouse and spillway, earth structures, electrical and mechanical work, and the construction and removal of temporary cofferdams needed to manage the river flow during construction.

Generating Station

- Manitoba Hydro in conjunction with the major construction contractors finished developing the project plan for 2018. This plan includes production goals/milestones for the season and actions targeted at improving performance.
- Manitoba Hydro and the GCC implemented a winter concrete plan in early 2018 to help recover a portion of the concrete quantities that were not achieved by the end of December 2017. This winter work allows for key areas to be advanced during the coldest winter months. The GCC executed the winter concrete work as planned, placing more than 9,000 m^3 of concrete between January 1 and March 31, 2018. In total there has been approximately 172,000 m^3 of concrete placed on the project; more than half the total volume of concrete required for the Keeyask Project.
- To help reduce risk to the project schedule, construction of the South Dyke was advanced by a year and began in late 2017. Work on the South Dyke included excavation, fill placement and sourcing of granular material. The winter work portion on the South Dyke was completed as planned.
- Work by the GCC over the winter was generally completed more efficiently than planned indicating that the initiatives targeted at driving positive change are beginning to show success.

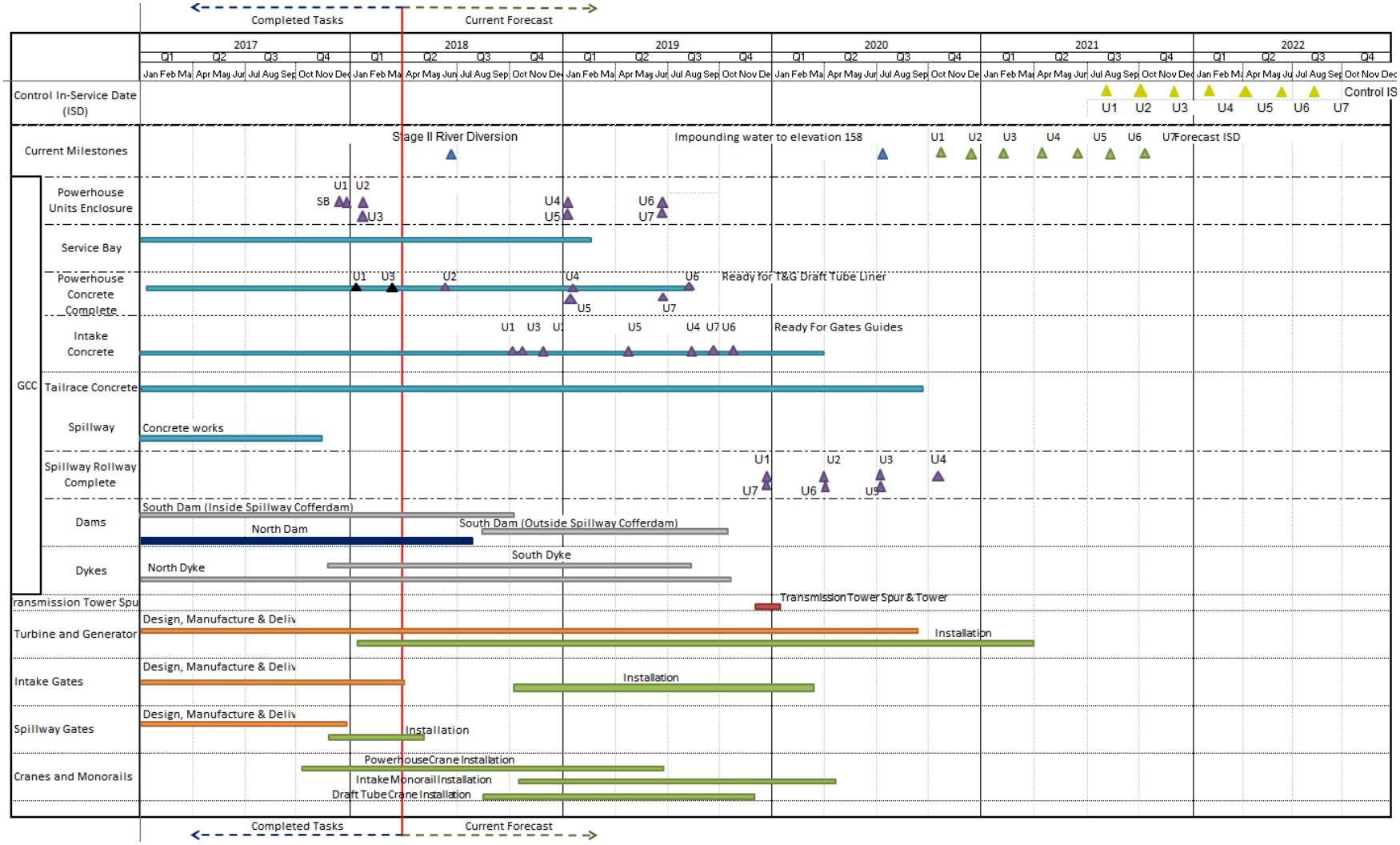
- Canmec continued to install the gates, guides and hoists on the Spillway. The installation work will continue until early May. The Spillway is on track for completion prior to river diversion in summer 2018.
- The Turbine and Generator (T&G) contractor installed the unit 1 and unit 3 draft tube liners and is assembling the stay ring in the Service Bay. Manitoba Hydro continues to work with the GCC and T&G contractors to resolve interface issues that are impacting the schedule. These issues are not expected to impact achievement of the control schedule.
- Despite improvements and achieving critical milestones in the 2017 season, further improvement in performance of approximately 10% by the GCC is still required on the Keeyask Project to meet control budget ($8.7B) and achieve in service dates for the units that are in advance of the control schedule of August 2021. This also assumes that no significant risks materialize with other contracts or risks that could impact the critical path. Manitoba Hydro is confident that this rate of improvement is attainable as it is similar to the year-over-year improvement between 2016 and 2017.
- The top risks include:
    - Execution/productivity rates of the GCC.
    - Loss of site access/work stoppages - Any civil disorder could significantly impact Manitoba Hydro's ability to construct the Keeyask Generating Station on time and on budget.
    - Unexpected geotechnical/geological conditions at the South Dam/Dyke.
    - Unseasonable weather that shortens the warm construction season.

Infrastructure

- Work is underway to expand the Keeyask main camp by an additional 152 rooms to accommodate the workforce required in 2018. The main camp contractor returned to site in winter 2018 to begin installation of the additional dorm units. These units will be available to support ramp up of the craft workforce in spring 2018. When expansion to the main camp is complete the Keeyask site will be able to accommodate over 2,500 workers.

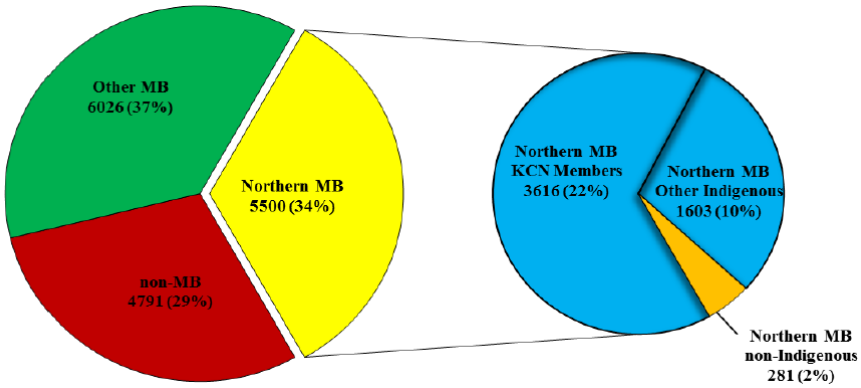
Project Schedule Overview – March 31, 2018

Note: Construction activities, milestones and unit In Service Dates (ISDs) reflect Manitoba Hydro's current forecast schedule. Presently, the forecast for the unit ISDs is in advance of the Control ISDs (August 2021 for first unit ISD).



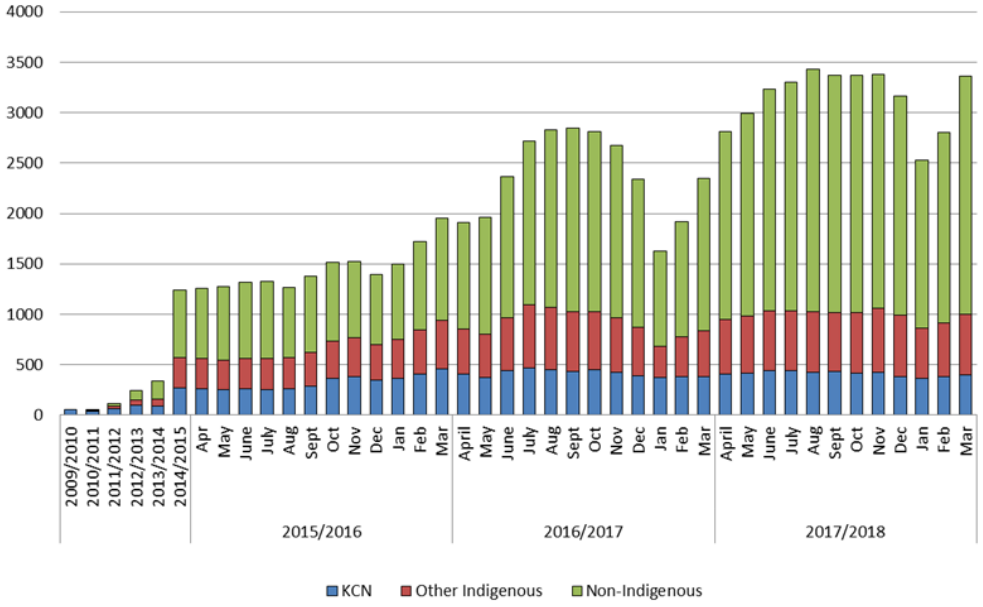
* This is a summary of our current plan broken down to the major component of construction and significant contractors, and how these components and milestones relate to river management and impoundment.
* "Control ISD" reflects MH communicated ISD dates, while "Current ISD" reflects current plan ISD dates which are currently 10 months ahead of the control ISD.
* Powerhouse concrete remains the project critical path driving the water impoundment. Construction of the dams and dykes are currently off the critical path.

Total Project Hires – as of March 31, 2018



- As of March 31, 2018, there have been a total of 16,317 hires on the Keeyask Project. Of these total hires, 71% (11,526) are Manitobans, 44% (7,234) have self-declared as being Indigenous persons and 22% (3,638) of the total hires are Keeyask Cree Nation ("KCN") members.

Active Hires – as of March 31, 2018



- As of March 31, 2018 there were 3,365 active hires on the Keeyask Project. Of these active hires, 54% (1,815) are Manitobans, 30% (1,001) have self-declared as being Indigenous persons and 12% (401) are KCN members.

FINANCIAL SUMMARY

- Actual expenditures to the end of March 31, 2018 were $4.51 billion.

Table A - Keeyask Budget Summary (in Billions $)

Item #	Item	Current Approved Budget (2016$)	Actuals to March 31, 2018
1.1	Generating Station	5.948	3.785
1.2	Generation Outlet Transmission (GOT)	0.202	0.107
1.3	Escalation @ CPI	0.249	0.000
1.4	Interest (including Interest on Equity)	1.749	0.615
1.5	Contingency	0.578	0.000
	Total	**8.726**	**4.508**

Table A Notes:

1. The Escalation and Contingency Components (1.3 and 1.5) will have no actual costs incurred against them; these costs will form part of the actual costs in the Generating Station, Generation Outlet Transmission and Interest Components (1.1, 1.2 and 1.4).

RECENT PHOTOS

Photo #1: Unit 1 Draft Tube Liner in the Service Bay Preparing to be Installed – January 21, 2018

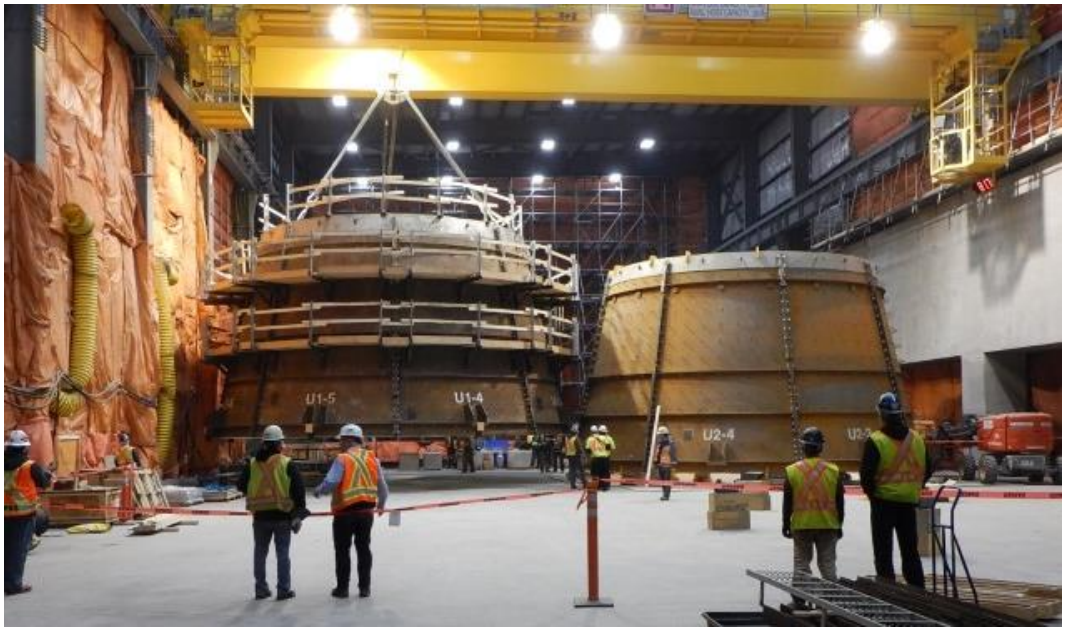


Photo #2: Unit 1 Draft Tube Liner Installation by the Turbine and Generator Contractor – January 21, 2018

Photo #3: Spillway Gate, Guide and Hoist Installation – March 20, 2018

Photo #4: Powerhouse Complex with Service Bay and Units 1-3 Enclosed – March 20, 2018

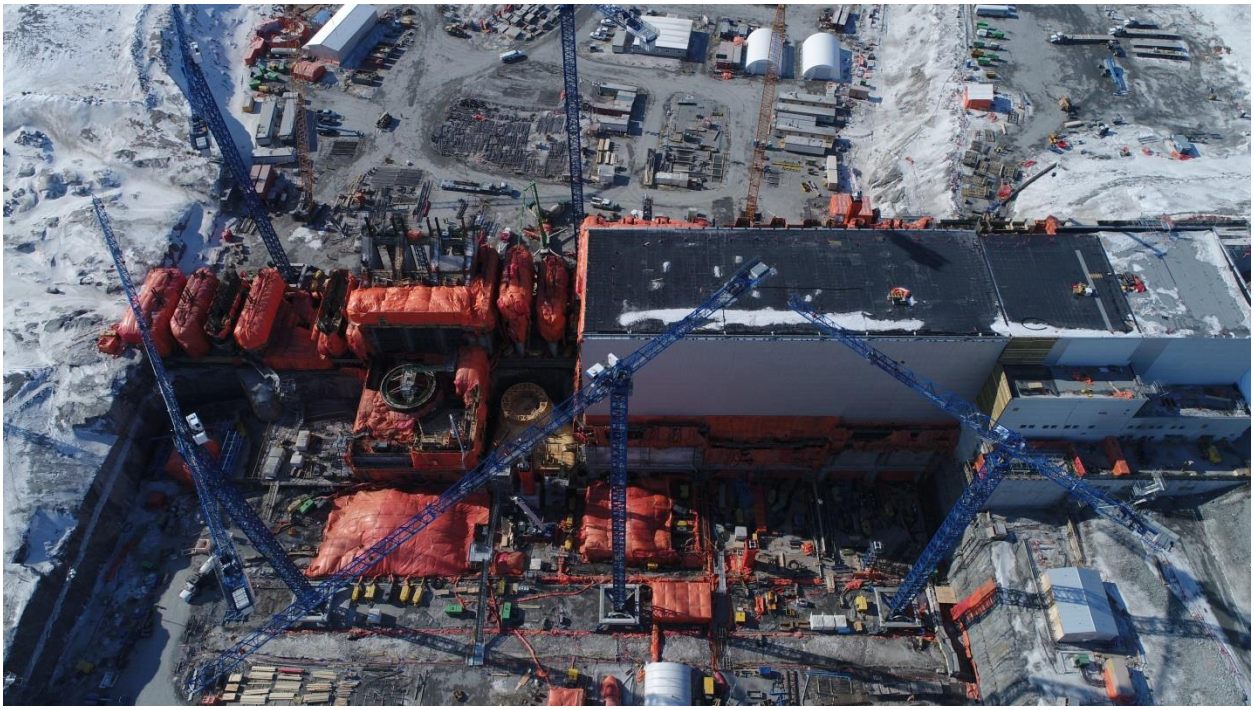
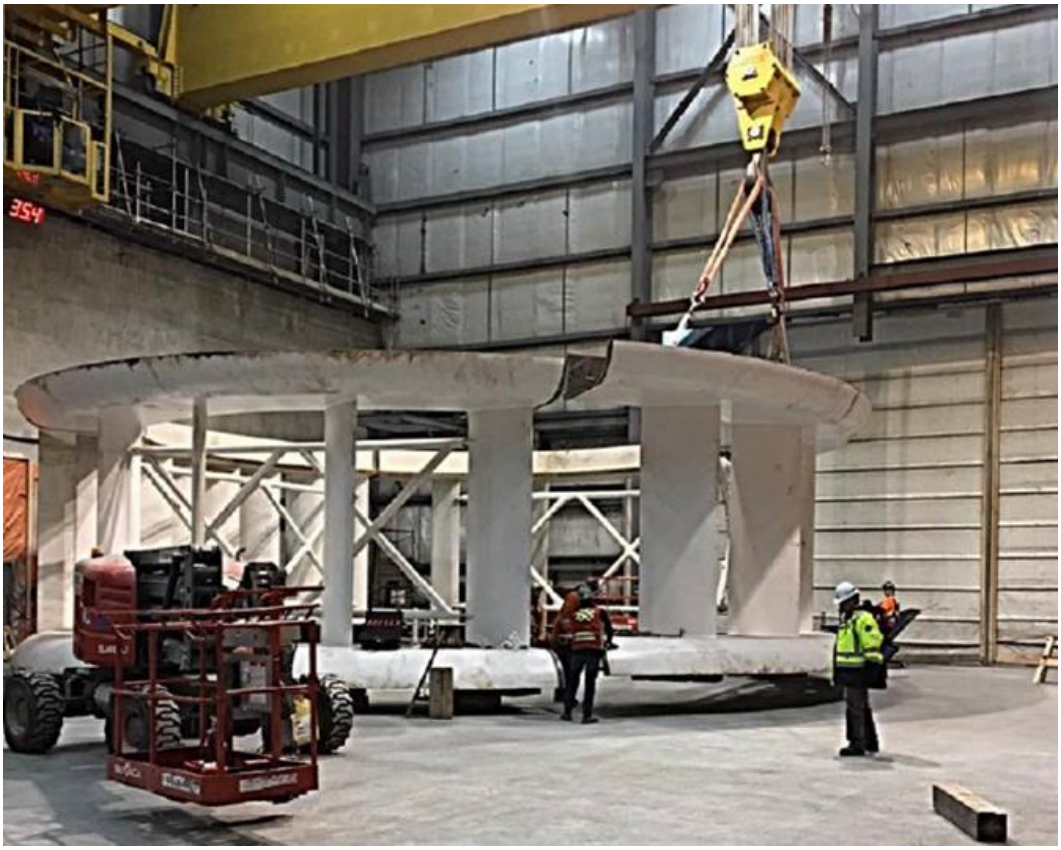


Photo #5: Stay Ring Assembly by the Turbine and Generator Contractor – March 29, 2018



MANITOBA – MINNESOTA TRANSMISSION PROJECT

Q4 Update ending March 31, 2018

MMTP Project Description

Manitoba Hydro's capital expenditure forecast includes the construction of a new 500kV Transmission Line between Winnipeg and Duluth, Minnesota (MMTP).

The MMTP transmission line will originate at Dorsey Converter station located near Rosser, northwest of Winnipeg and extend 213 km south around Winnipeg to the Manitoba-Minnesota border, near Piney, Manitoba. The MMTP also includes associated upgrades at Dorsey, Riel and Glenboro stations.

The U.S. portion of the 500 kV line will initiate at the border and terminate at Iron Range Station near Grand Rapids, Minnesota. This project is known as the Great Northern Transmission Line (GNTL), and will be constructed by Minnesota Power.

MMTP Project Update

- A decision from the Minister of Sustainable Development regarding an Environment Act Licence for the project has yet to be made. Sagkeeng First Nation has filed a request for judicial review of the provincial licensing decision stemming from concerns around section 35 Consultation (aboriginal rights). Dates and next steps of this review are yet to be determined.
- On December 21, 2017 the NEB issued an Order setting out the procedures for a public hearing to review the MMTP project, and associated timelines. The order also specified the maximum time for an NEB decision of no later than March 2019. The NEB certificate process is essential to the timely completion of the project.
- The hearing process is underway, with the oral portion and cross examination scheduled to begin in late June 2018. Oral traditional evidence will be presented by aboriginal intervenors in early June 2018.
- A number of Intervenors have requested additional time be added to the hearing process to allow time to prepare both expert evidence and oral traditional evidence from aboriginal participants. Manitoba Hydro has argued that this is not necessary. The NEB has yet to issue a decision related to this request.
- Property Acquisition is continuing and 68% of the private land required along the proposed transmission line route between Vivian, Manitoba and the U.S. Border has been secured.
- In order to secure the project in-service date Manitoba Hydro must move forward with long lead time items such as the material contracts prior to receiving Provincial and Federal regulatory approvals. Failure to do so would result in substantial project delays, as such two contracts for tower steel have been awarded to SA-RA Energy, Construction, Trade & Industry Inc., and MITAS Industry Inc. Each contract will supply 50% of the tower steel, with a delivery date for all tower steel by end of October. Should Manitoba Hydro receive notification that the project will not receive its necessary regulatory approvals materials may be re-used on future transmission projects in order to recover sunk costs.
- Work began on the Request for Proposal (RFP) documents for two construction contracts (one for Section 1, Dorsey Station to Vivian Corner and one for Section 2, Vivian Corner to the U.S. Border), in order to post the RFP for bids to be received through the summer and protect an estimated construction start date of December 2018. This contract will be structured such that construction

MANITOBA – MINNESOTA TRANSMISSION PROJECT

Q4 Update ending March 31, 2018

efforts will be pending the regulatory approvals to ensure there is minimal costs to Manitoba Hydro should the project not proceed due to decision regarding the environmental license.

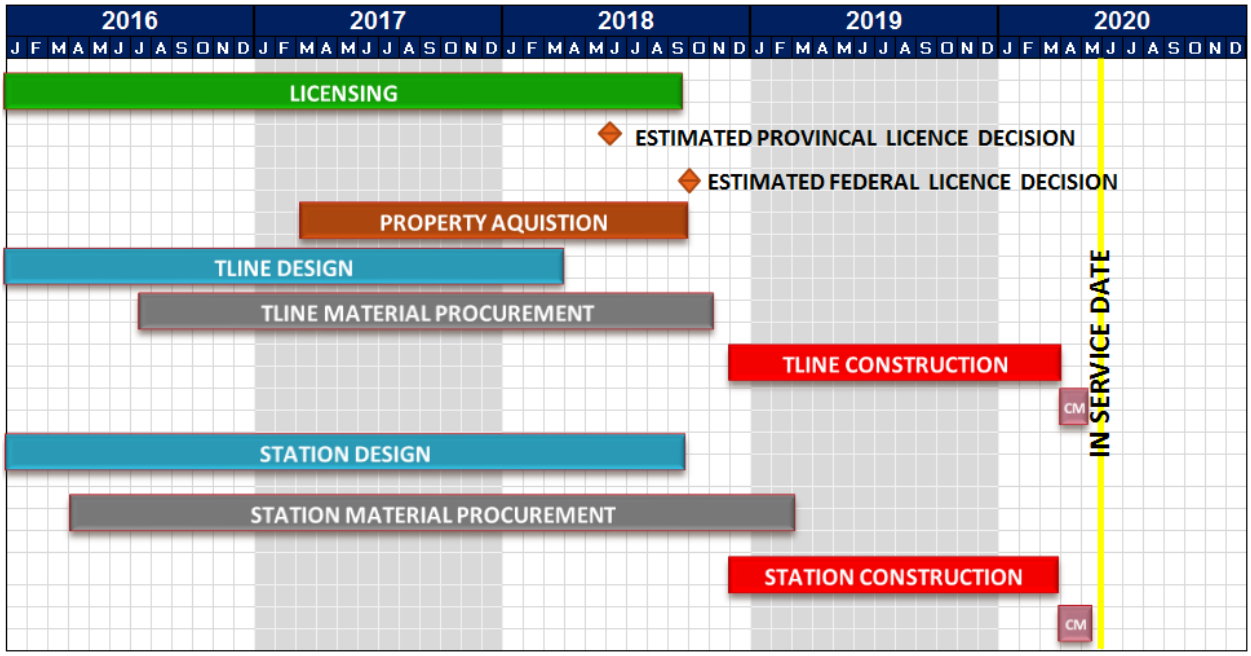
- Phase conductor material was delivered, and will continue through the spring of 2018.
- Pre-cast foundation material is being ordered and deliveries will begin in the spring.

MMTP Budget

Item #	Item	Control Budget	Actuals to March 31, 2018
1.1	Licensing & Environmental	$ 31.5M	$ 19.3M
1.2	500 kV Transmission Line *	$ 213.6M	$ 26.0M
1.3	Station Upgrades*	$ 112.8M	$ 13.3M
1.4	Contingency	$ 95.3M	$0
1.5	**Total**	**$ 453.2M**	**$ 58.6M**

*No construction contracts are currently in place.

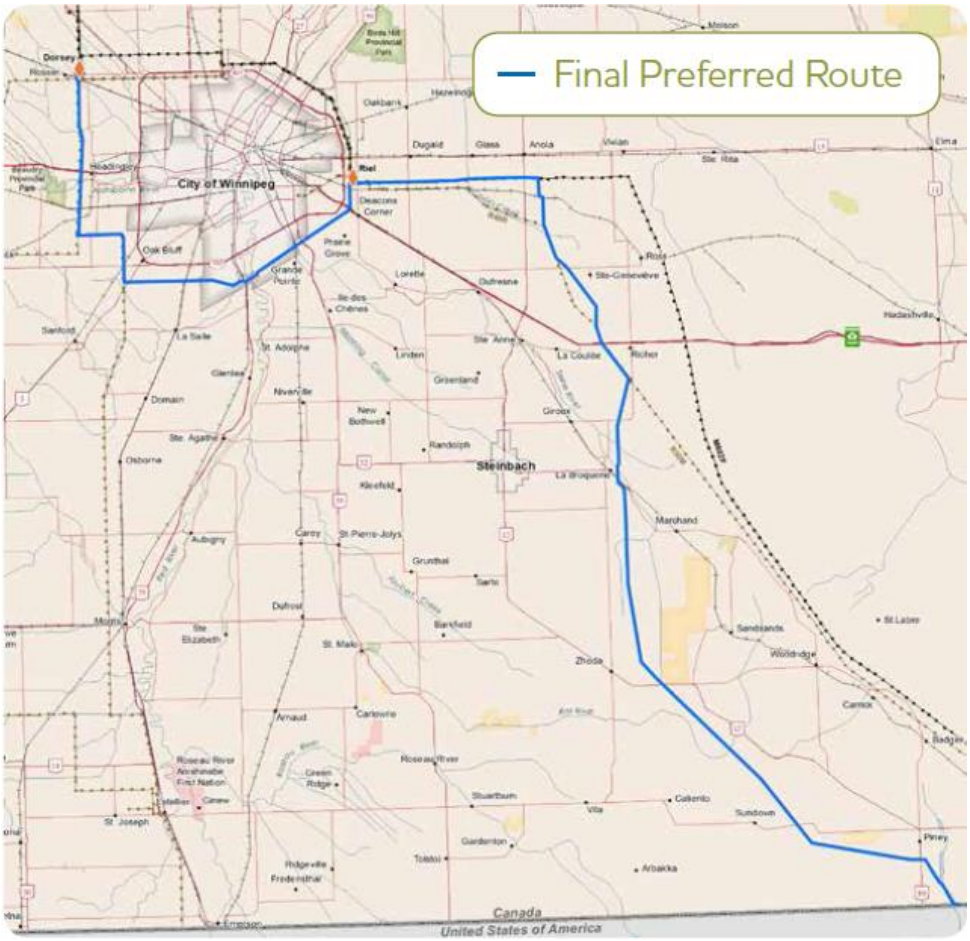
MMTP Project Schedule



MANITOBA – MINNESOTA TRANSMISSION PROJECT

Q4 Update ending March 31, 2018

MMTP Project Route



Manitoba Hydro Update on Major Projects to the Public Utilities Board

Bipole III Project Update

Q1 Update ending June 30, 2018

Bipole III sunset at Keewatinohk Converter Station

EXECUTIVE SUMMARY

Project Description

Bipole III is a high voltage direct current transmission project under construction that will deliver renewable energy to southern Manitoba once in-service in the next quarter.

The Bipole III project includes:

- A 1,384-kilometre, 500,000-volt direct current transmission line;
- The Keewatinohk Converter Station in northern Manitoba, northeast of Gillam;
- The Riel Converter Station, east of Winnipeg;
- 230 kV collector lines (5); and,
- Two ground electrodes at each of the new converter stations.

Bipole III adds 2,000 megawatts to Manitoba Hydro's high voltage direct transmission and will strengthen the reliability of Manitoba's electricity supply by reducing dependency on existing high voltage direct current transmission lines and the Dorsey Converter Station. Currently, the two existing Bipole lines deliver over 70 per cent of the electricity produced in the province.

Due to its heavy reliance on one transmission corridor and a single converter station in the south (Dorsey), Manitoba Hydro's electricity system is vulnerable to extensive power outages from severe weather (major ice storm, extreme wind event, tornado), fires, or other events. The Riel Converter Station will establish a second converter station in southern Manitoba, to provide another major point of power injection into the transmission and distribution system.

Background

The Bipole III Project Environment Act Licence was issued August 14, 2013. In fall 2016, a review of the Bipole III budget and schedule was conducted and the budget was increased to $5.04 billion with an in-service date of July 2018.

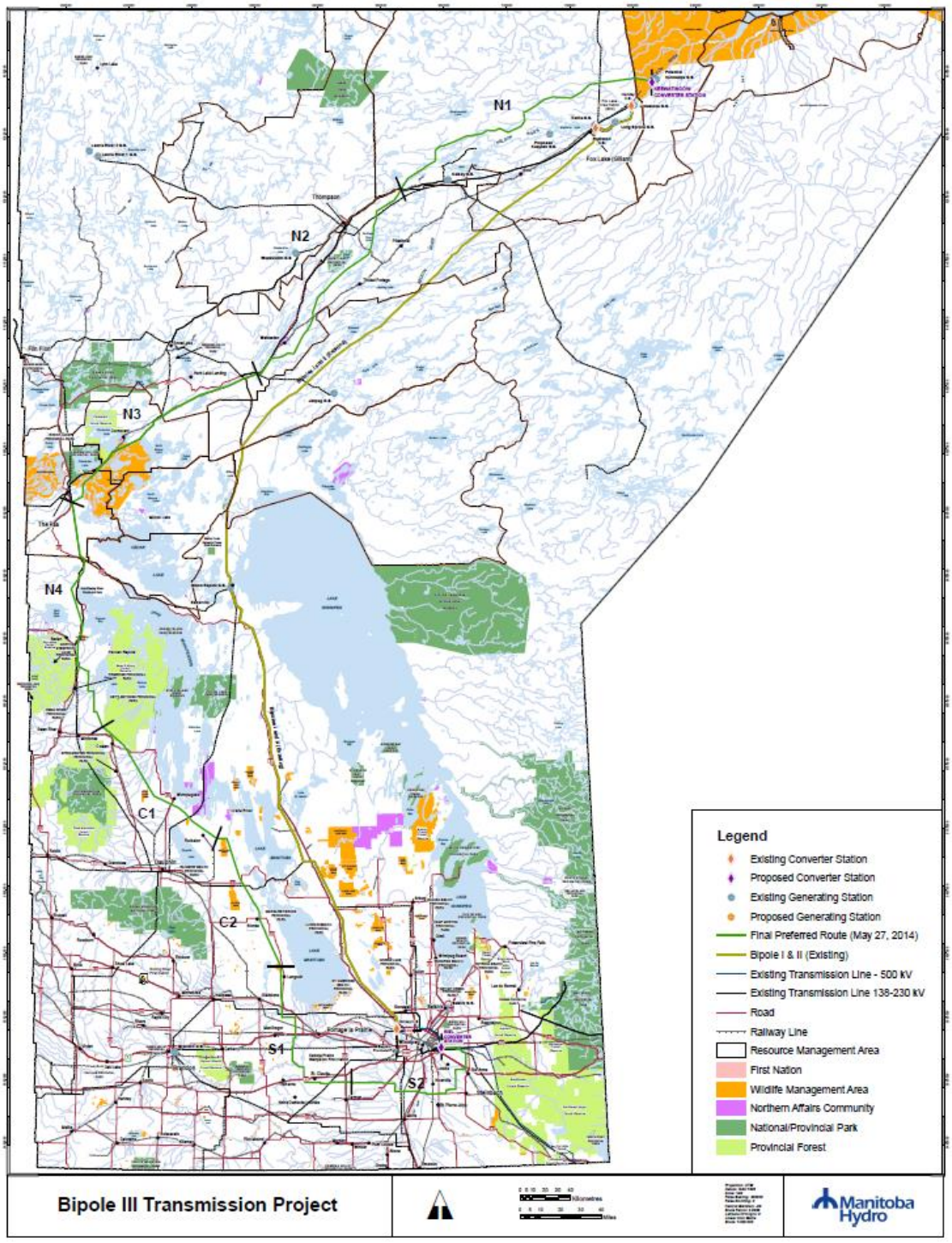
Keewatinohk and Riel Converter Stations
The Bipole III transmission line originates at a new northern converter facility, the Keewatinohk Converter Station, and terminates at a new southern converter facility, the Riel Converter Station. In addition to the new transmission line and the new converter stations, the project includes new collector lines linking the Keewatinohk Converter Station to the northern collector system at the existing switchyards at Henday Converter Station and Long Spruce Generating Stations. Each of those facilities required some modifications for these new "collector lines". Each of the new converter stations required the development of a separate ground electrode, connected to the station by a low voltage feeder line.

Transmission Line Construction

The Keewatinohk Converter Station and the Riel Converter Station will be linked by a new +/- 500 kV HVDC transmission line approximately 1,384 km in length, centered on a 66 meter wide right-of-way following a route west of lakes Winnipegosis and Manitoba. This new transmission line has been routed as far as practical, sufficiently far from the existing Bipole I and II lines so as to decrease the probability that a single catastrophic weather event or natural disaster would damage both the new transmission line and Bipoles I and II.

Below please find a map of the transmission line segments.

Map of the Bipole III Project



PROJECT UPDATE

Construction work on the Bipole III HVDC transmission line was completed on March 31, 2018 enabling Manitoba Hydro to release the Bipole III Transmission Line for commissioning. Construction at the converter stations is nearly complete and the HVDC line was connected to both the Riel and Keewatinohk Converter Stations on March 31, 2018.

On April 2, 2018 as part of the test process, commissioning crews successfully energized each station fully from the converter transformers to the valve hall to the DC yard for the first time, delivering 50 megawatts from the Keewatinohk Converter Station to the Riel Converter Station.

On April 23, 2018 the Bipole III, Pole 6 was loaded to 1150 MW, full loading in metallic return on one pole for the first time. Bipole III HVDC power was uninterrupted for all tests, performing as expected.

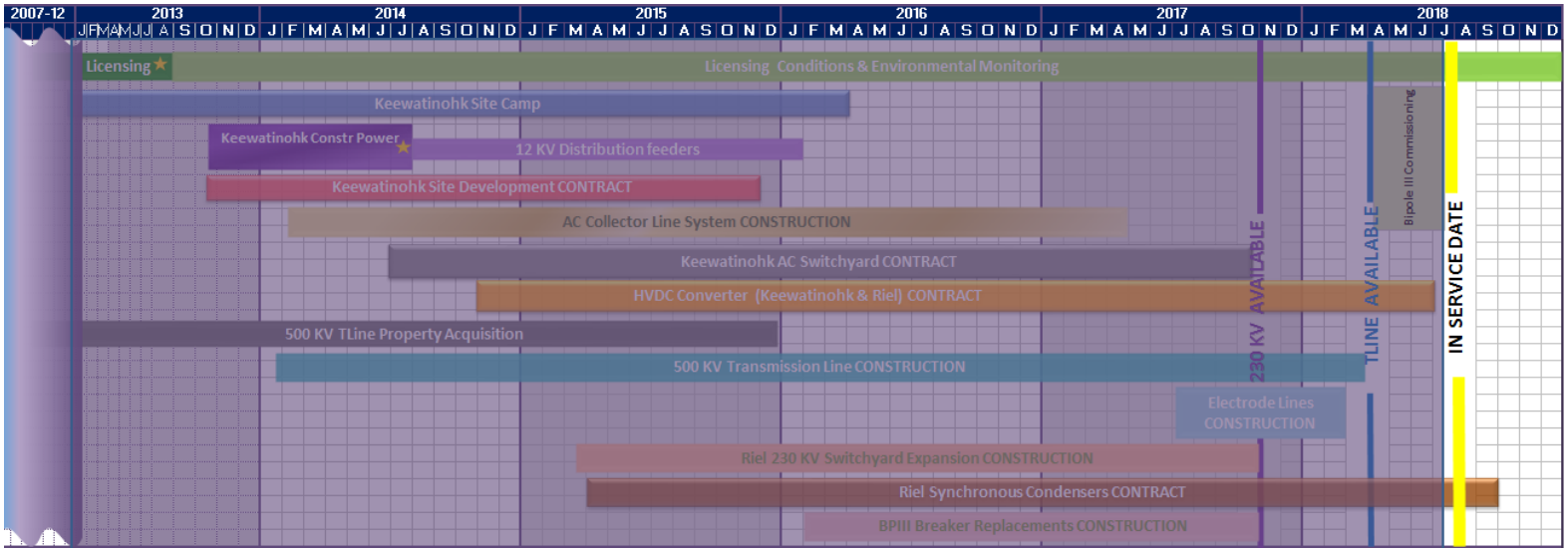
The first three synchronous condensers – 360,000 kg machines that rotate at 1,200 rpm and help stabilize Manitoba Hydro's system are complete and available to support the system.

As part of the commissioning process, the HVDC system including both converter stations and the transmission line had to run for 30 consecutive days to confirm reliability prior to going into commercial service. That trial operating period successfully concluded on June 26, 2018. The trial operation was followed by a seven day period to address deficiencies noted during commissioning and the 30-day trial.

On July 4, 2018 Bipole III was turned over for commercial service to Manitoba Hydro operations.

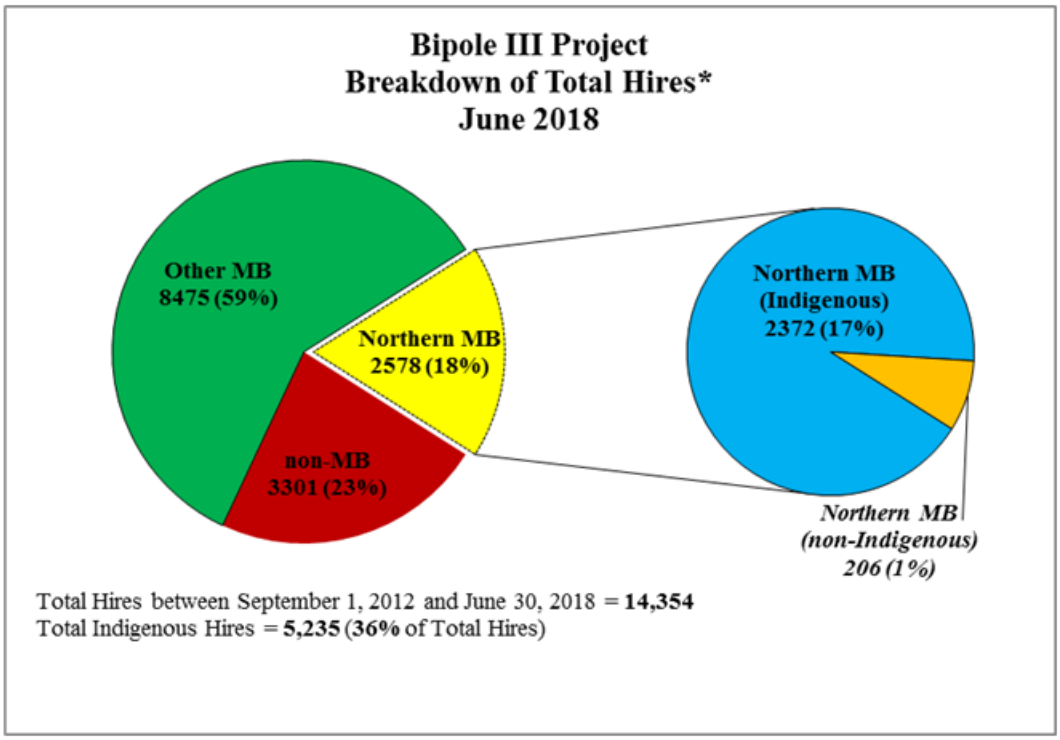
The work remaining on the Bipole III project includes the completion of the final synchronous condenser at the Riel Converter Station, decommissioning of the Keewatinohk lodge and associated temporary construction infrastructure and final Bipole III project close out activities.

Bipole III Schedule Overview – June 30, 2018



Total Hires: – as of June 30, 2018

- Since September 2012 there have been a total of 14,354 hires for the Bipole III Project.
- Of the total hires, 77% (11,053) are Manitobans, including 18% (2,578) northern Manitobans, 36% (5,235) have self-declared as being Indigenous persons.
- Active hires: 2,253.



FINANCIAL SUMMARY

- Construction is progressing to be on budget of $5.042 billion.
- Expenditures were $4.4 billion to the end of June 30, 2018.

Table A - Bipole III Budget Summary (in Billions $)

Item #	Item	Current Approved Budget (2016$)	Actuals to Jun 30, 2018
1.1	Transmission Line	1.457	1.499
1.2	Converter Stations	2.285	2.221
1.3	Collector Lines	0.199	0.193
1.4	Community Development Initiative	0.053	0.053
1.5	Escalation @ CPI	0.052	0.000
1.6	Interest (Capitalized)	0.487	0.434
1.7	Contingency	0.509	0.000
1.8	Total	5.042	4.400

Table A Notes:

1. The Escalation and Contingency Components (1.5 and 1.7) will have no actual costs incurred against them; these costs will form part of the actual costs in the Transmission Line, Converter Stations, Collector Lines, Community Development Initiative and Interest Components (1.1, 1.2, 1.3, 1.4 and 1.6).

Pictures

Photo 1: Riel Converter Station, spare transformer deluge testing

Photo 2: Bipole III Commissioning, DC line fault testing

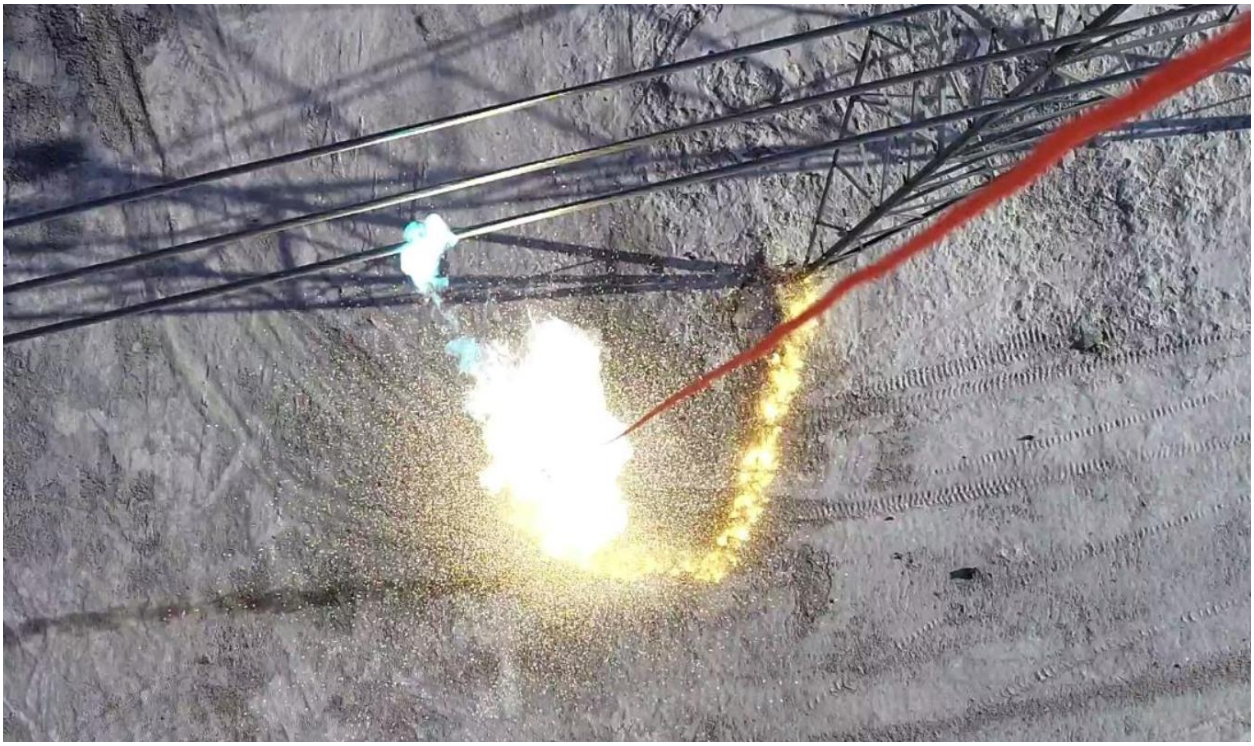


Photo 3: N1 – Environmental Inspection STR 516

Photo: **N1 – Environmental Inspection STR 517**

Photo 5: N1 – C530 Guyed Tower

Photo 6: N1 – Keewatinohk Converter Station

Manitoba Hydro Update on Major Projects to the Public Utilities Board

Keeyask Project Update

Q1 Update ending June 30, 2018

EXECUTIVE SUMMARY

- In 2018, the project requires at least a 10% improvement in the General Civil Contract ("GCC") performance for the remainder of their work and no substantive risks to materialize to achieve the control budget. The schedule is trending towards 10 months ahead of schedule, however, there is still much work remaining this year.
- The control budget for the project remains at $8.7B. There are currently no changes in budget that would impact domestic revenue requirements or Manitoba Hydro's financial forecasts.
- In the last quarter, concrete placements on the Powerhouse Complex and earthworks on the north and south side of the river were completed as planned.
- Actual expenditures to the end of June 30, 2018 were $4.86 billion.

PROJECT UPDATE

Background

- The Keeyask Generating Station is a 7 unit, 695-megawatt hydroelectric generating station under construction at Gull Rapids on the lower Nelson River in northern Manitoba.
- The Keeyask Project is a collaborative effort between Manitoba Hydro and four Manitoba First Nations, working together as the Keeyask Hydropower Limited Partnership.
- Keeyask will be Manitoba's fourth largest generating station and the sixth on the Nelson River.
- Construction of the Keeyask Generating Station commenced on July 16, 2014 after receipt of all required licenses and approvals.
- The Keeyask Project includes construction of the generating station as well as construction of supporting infrastructure. Most of the supporting infrastructure was constructed in advance of commencement of construction of the generating station under the Keeyask Infrastructure Project (KIP).
- The General Civil Works contract, the largest contract on the project, was awarded to BBE Hydro Constructors Limited Partnership consisting of Bechtel Canada Co., Barnard Construction of Canada Ltd. and EllisDon Civil Ltd. The General Civil Works contractor is responsible for rock excavation, concrete for the powerhouse and spillway, earth structures, electrical and mechanical work, and the construction and removal of temporary cofferdams needed to manage the river flow during construction.

Generating Station

- The General Civil Contractor is on track with concrete placements on the Powerhouse complex. Approximately 38,000 m^3 of concrete was placed between April 1 and June 30, 2018. In total there has been approximately 210,000 m^3 of concrete placed on the project; approximately 65 per cent of the total volume of concrete required for the Keeyask Project.
- The Spillway gates, guides and hoist work has been substantially completed which is required to support river diversion activities.
- The project is on track to achieve the river diversion milestone in late summer 2018 where the entire flow of the Nelson River will be channeled through the Spillway. River diversion is a significant milestone for the project and the partner First Nations.
- Work on the South Dyke, North Dam, and Central Dam continues to progress as planned.
- In 2018, the project requires at least a 10% improvement in the GCC performance for the remainder of their work and no substantive risks to materialize to achieve control. The schedule is trending towards 10 months ahead of schedule, however, there is still much work remaining this year.

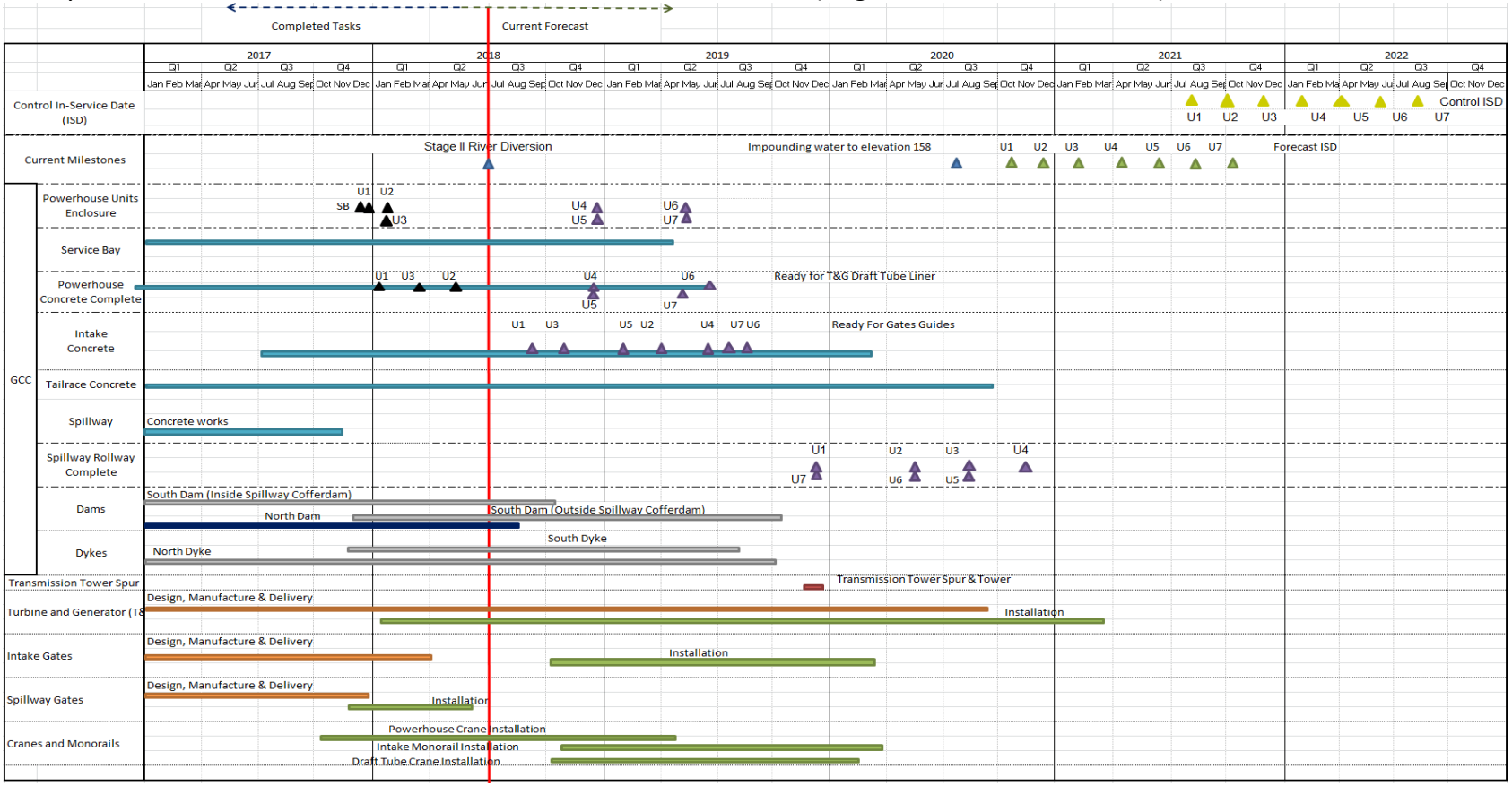
- The top risks include:
    - Execution/productivity rates of the GCC.
    - Loss of site access/work stoppages - Any civil disorder could significantly impact Manitoba Hydro's ability to construct the Keeyask Generating Station on time and on budget.
    - Unexpected geotechnical/geological conditions at the South Dam/Dyke.
    - Unseasonable weather that shortens the warm construction season.

Infrastructure

- Expansion of the main camp by an additional 152 rooms has been completed and will allow the project to accommodate up to 2,500 workers.

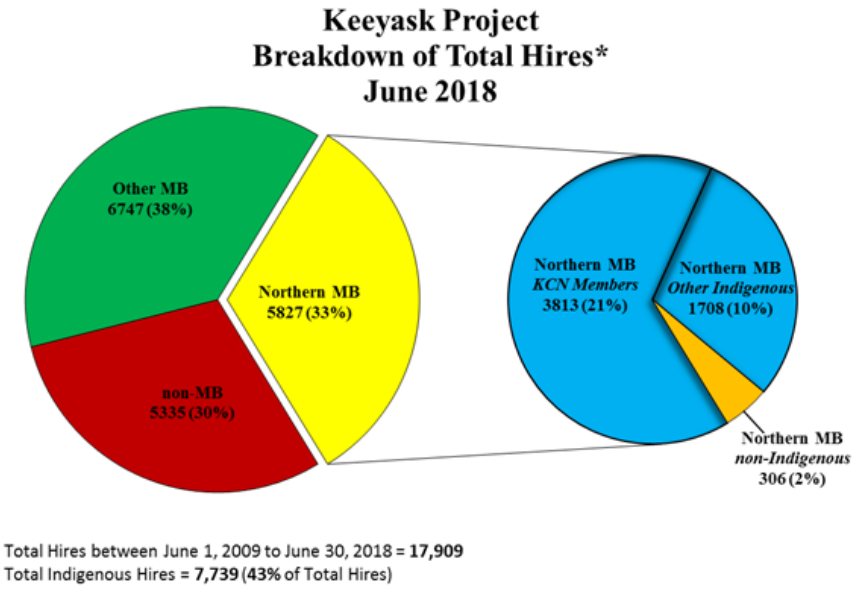
Project Schedule Overview – June 30, 2018

Note: Construction activities, milestones and unit In Service Dates (ISDs) reflect Manitoba Hydro's current forecast schedule. Presently, the forecast for the unit ISDs is in advance of the Control ISDs (August 2021 for first unit ISD).



* This is a summary of MH's current plan broken down to the major component of construction and significant contractors, and how these components and milestones relate to river management and impoundment.
* "Control ISD" reflects MH communicated In-Service-Date ("ISD") dates, while "Current ISD" reflects current planned ISD dates which are currently 10 months ahead of the control ISD.
* Powerhouse concrete remains the project critical path driving the water impoundment. Construction of the dams and dykes are currently off the critical path.

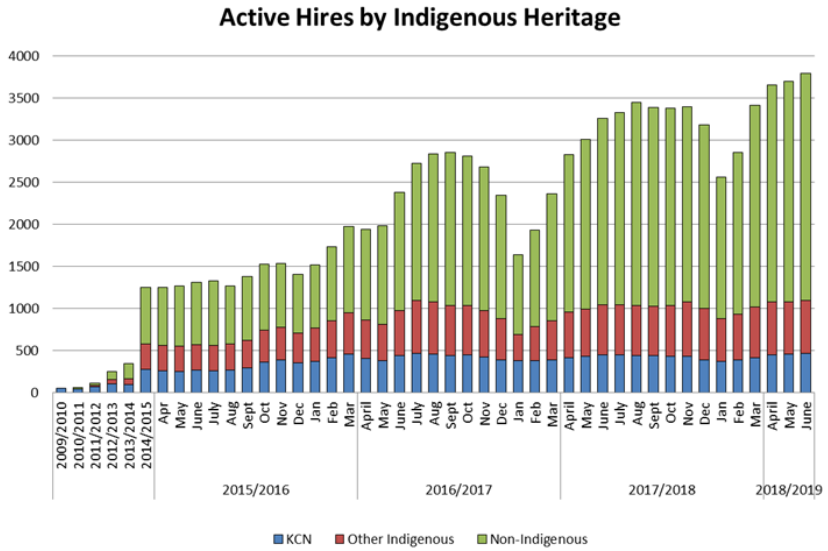
Total Project Hires – as of June 30, 2018



Total Hires between June 1, 2009 to June 30, 2018 = **17,909**
Total Indigenous Hires = **7,739** (**43%** of Total Hires)

- As of June 30, 2018, there have been a total of 17,909 hires on the Keeyask Project. Of these total hires, 70% (12,574) are Manitobans, 43% (7,739) have self-declared as being Indigenous persons and 21% (3,813) of the total hires are Keeyask Cree Nation ("KCN") members.

Active Hires – as of June 30, 2018



- As of June 30, 2018 there were 3,796 active hires on the Keeyask Project. Of these active hires, 54% (2,049) are Manitobans, 29% (1,093) have self-declared as being Indigenous persons and 12% (462) are KCN members.

FINANCIAL SUMMARY

- Actual expenditures to the end of June 30, 2018 were $4.86 billion.

Table A - Keeyask Budget Summary (in Billions $)

Item #	Item	Current Approved Budget (2016$)	Actuals to June 30, 2018
1.1	Generating Station	5.948	4.077
1.2	Generation Outlet Transmission (GOT)	0.202	0.124
1.3	Escalation @ CPI	0.249	0.000
1.4	Interest (including Interest on Equity)	1.749	0.661
1.5	Contingency	0.578	0.000
	Total	**8.726**	**4.862**

Table A Notes:
1. The Escalation and Contingency Components (1.3 and 1.5) will have no actual costs incurred against them; these costs will form part of the actual costs in the Generating Station, Generation Outlet Transmission and Interest Components (1.1, 1.2 and 1.4).

RECENT PHOTOS

Photo #1: Completed Spillway Structure – May 23, 2018

Photo #2: Aerial View of the Spillway and Spillway Cofferdam Removal "in the dry" – June 18, 2018

Photo #3: Central Dam Construction – June 2018

Photo #4: Installed Unit 1 Stay Ring – May 23, 2018

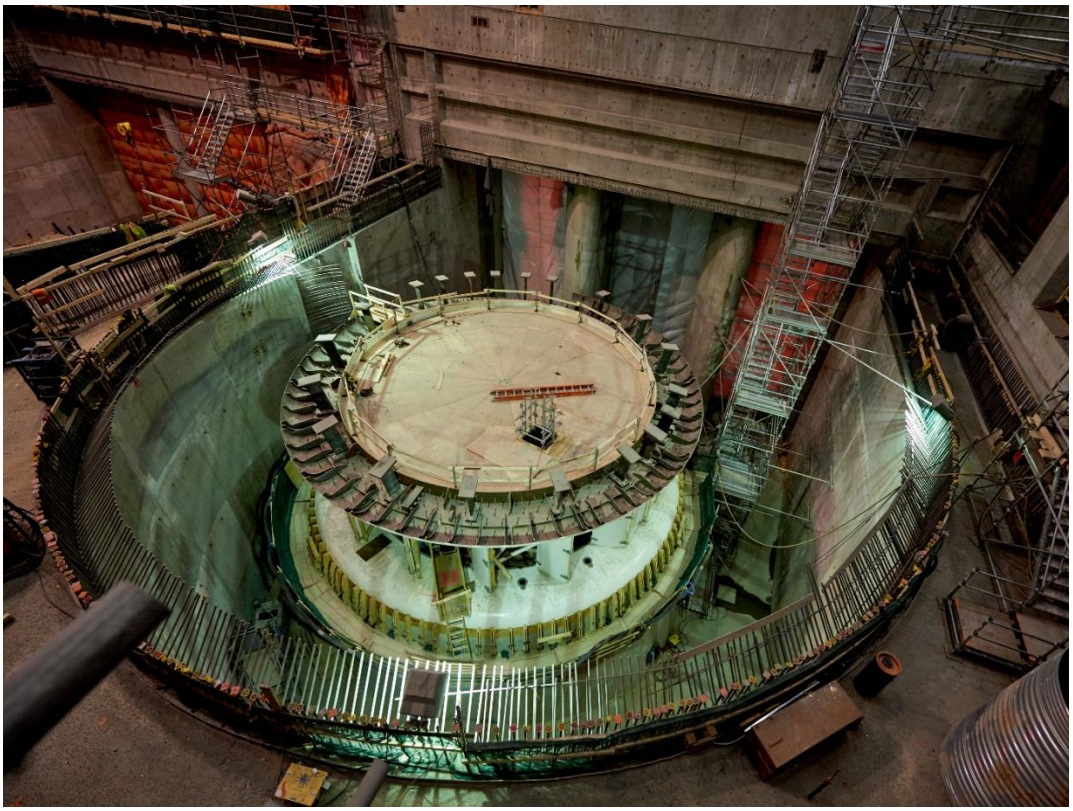


Photo #5 – Lowering Unit 3 Stay Ring into Place – June 11, 2018

Photo #6: Powerhouse Complex – June 15, 2018

MANITOBA – MINNESOTA TRANSMISSION PROJECT

Q1 Update ending June 30, 2018

MMTP Project Description

Manitoba Hydro's capital expenditure forecast includes the construction of a new 500kV Transmission Line between Winnipeg and Duluth, Minnesota (MMTP).

The MMTP transmission line will originate at Dorsey Converter station located near Rosser, northwest of Winnipeg and extend 213 km south around Winnipeg to the Manitoba-Minnesota border, near Piney, Manitoba. The MMTP also includes associated upgrades at Dorsey, Riel and Glenboro stations.

The U.S. portion of the 500 kV line will initiate at the border and terminate at Iron Range Station near Grand Rapids, Minnesota. This project is known as the Great Northern Transmission Line (GNTL), and is being constructed by Minnesota Power.

MMTP Project Update

- Manitoba Hydro is awaiting a licensing decision by Manitoba Sustainable Development, after receiving a positive recommendation from the Manitoba Clean Environment Commission following its environmental hearing.
- Sagkeeng First Nation has filed a request for judicial review of the provincial licensing decision stemming from concerns around section 35 Consultation. Since no license has been issued to date, next steps of this review are yet to be determined.
- The National Energy Board (NEB) hearings for the Project are complete. Oral cross examination took place June 18th-22nd, and the record for the proceedings officially closed June 25th.
- Manitoba Hydro awaits a decision by the NEB on whether to issue a Certificate, which decision is then subject to the approval of the Governor in Council.
- Property acquisition is continuing and as of June 30th, 75% of the private land required along the proposed transmission line route between Vivian, Manitoba and the U.S. Border has been secured.
- In order to secure the project in-service date Manitoba Hydro must move forward with long lead time items such as the material contracts prior to receiving Provincial and Federal regulatory approvals. Failure to do so would result in substantial project delays. Should Manitoba Hydro receive notification that the project will not receive its necessary regulatory approvals, materials may be re-used on future transmission projects in order to recover sunk costs.
- Phase conductor material has been delivered to an existing storage yard, and pre-cast foundation material deliveries have begun.
- Meetings with the tower steel vendors have begun to review manufacturing process and delivery. Manufacturing process has begun in order to meet the delivery date for all tower steel by this fall.
- The Request for Proposal (RFP) documents for two construction contracts were posted on MERX on June 13th, with a closing date of late August, in order to protect an estimated construction start date of December 2018. These contracts will be structured such that construction efforts will be subject to the regulatory approvals.

MANITOBA – MINNESOTA TRANSMISSION PROJECT

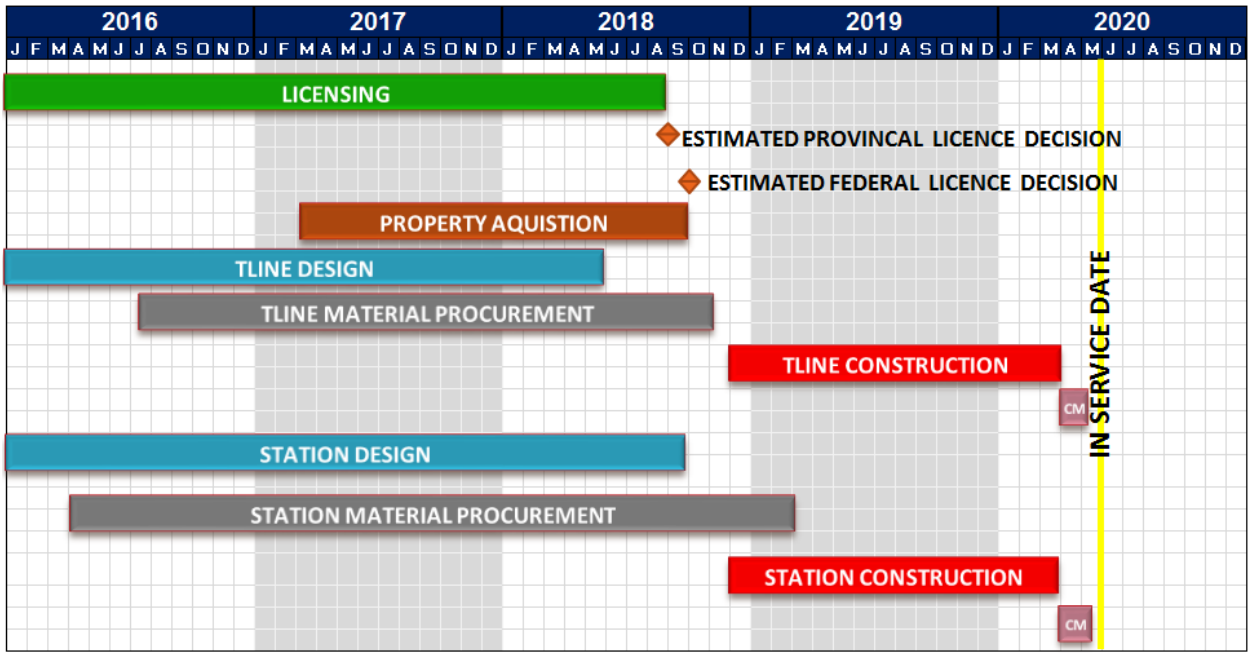
Q1 Update ending June 30, 2018

MMTP Budget

MMTP Budget Summary (in Millions $)			
Item #	**Item**	**Total Project Control Budget**	**Actual costs to June 30, 2018**
1.1	Licensing & Environmental	31.5	20.8
1.2	500 kV Transmission Line *	213.6	44.9
1.3	Station Upgrades*	112.8	8.3
1.4	Contingency	95.3	-
1.5	Total	453.2	73.9

*No construction contracts or contracts above $50 million are currently in place.

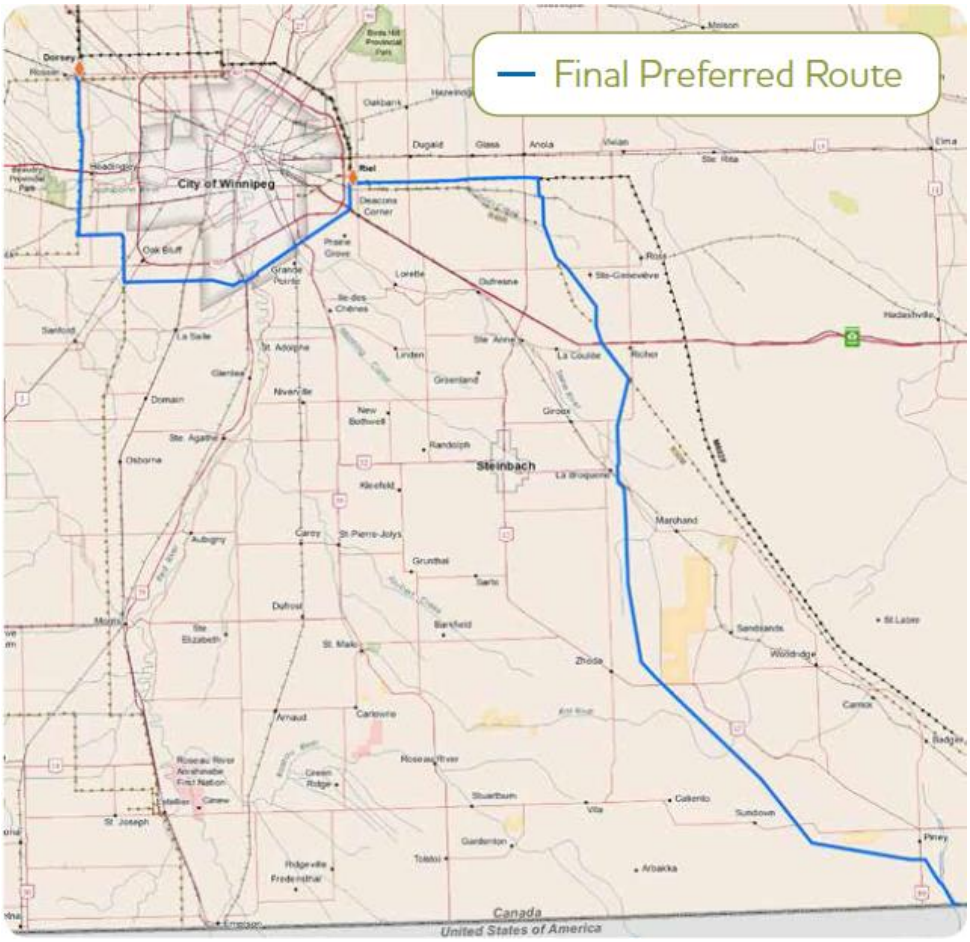
MMTP Project Schedule



MANITOBA – MINNESOTA TRANSMISSION PROJECT

Q1 Update ending June 30, 2018

MMTP Project Route



BIRTLE TRANSMISSION PROJECT

Q1 Update ending June 30, 2018

As noted in the fourth quarter report for the 2017/18 fiscal year, Manitoba Hydro is now providing detailed reports for all projects classified as MNG&T in its Capital Expenditure Forecast. As such, Manitoba Hydro is now filing a separate report on the Birtle Project, in addition to the Bipole, Keeyask, MMTP and GNTL Reports.

Birtle Project Description

Construction of the Manitoba portion of a new 230kV Transmission Line between Birtle, Manitoba and Tantallon, Saskatchewan and additional miscellaneous upgrades to the Manitoba transmission grid is known as the Birtle Transmission Project.

The Birtle transmission line (B71T) will originate at Birtle South Station and extend 46 km to the Manitoba-Saskatchewan border. The Birtle Transmission Project also includes upgrades to transmission line P52E as well as upgrades at Raven Lake, Virden West, and The Pas Ralls Island stations.

Birtle Project Update

- Manitoba Hydro (MH) filed the Environmental Act Proposal for the project on January 30, 2018. The Environmental Approvals Branch (EAB), Technical Advisory Committee submitted Information Requests (IRs) to MH on June 1st. MH met with Provincial regulators on June 27th to describe the routing and border crossing selection process. MH anticipates filing responses to IRs by mid-July. Communication with Provincial regulators will resume over the coming months to ensure they are informed on all aspects of the proposed Project.
- Transmission line design activities are ongoing.
- Land title searches have been largely completed by MH with completion scheduled by July 2018.
- Design for structures, equipment and grounding at Birtle South Station commenced in June and the major apparatus for Birtle South Station has been ordered.

Birtle Budget

Birtle Budget Summary (in Millions $)

Item #	Item	Total Project Control Budget	Actual costs to June 30, 2018
1.1	Licensing & Environmental	4.65	2.07
1.2	Transmission line	43.83	0.49
1.3	Station Upgrades	7.94	0.22
1.4	**Total**[1]	**56.5**	**2.78**

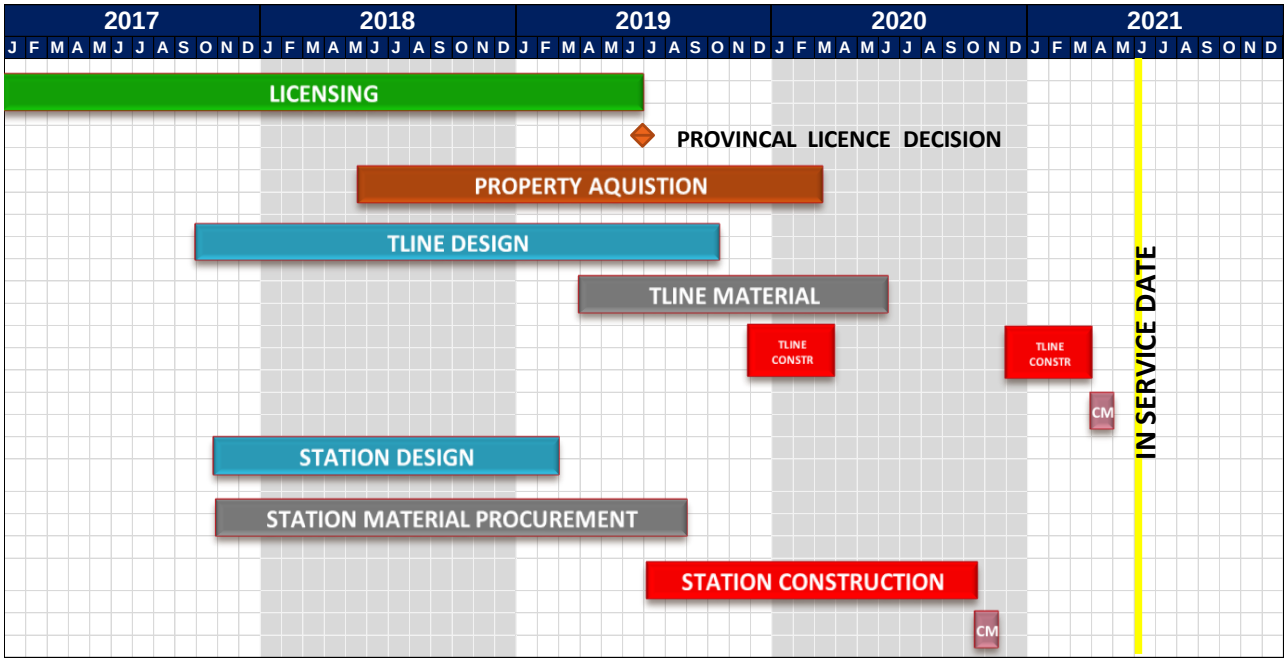
1. In the current control budget contingency is built into the project costs.

Note, there are no construction contracts or contracts above $50 million currently in place.

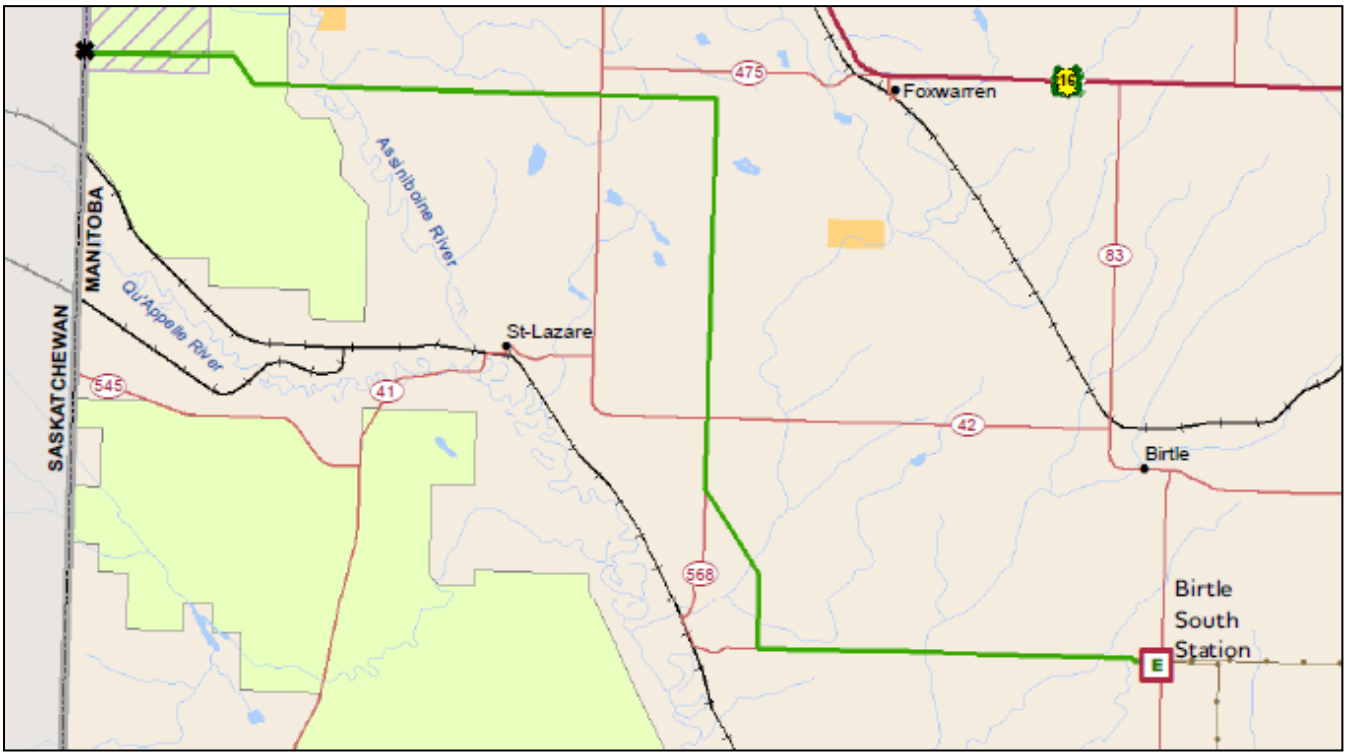
BIRTLE TRANSMISSION PROJECT

Q1 Update ending June 30, 2018

Birtle Project Schedule



Birtle Final Preferred Route Map



Manitoba Hydro Update on Major Projects to the Public Utilities Board

Bipole III Project Update

Q2 Update ending September 30, 2018

Riel Converter Station – Synchronous Condenser

EXECUTIVE SUMMARY

Project Description

Bipole III is a high voltage direct current transmission line that delivers renewable energy to southern Manitoba. Bipole III went into operation in July of 2018.

The Bipole III project included:

- A 1,384-kilometre, 500,000-volt direct current transmission line;
- The Keewatinohk Converter Station in northern Manitoba, northeast of Gillam;
- The Riel Converter Station, east of Winnipeg;
- 230 kV collector lines (5); and,
- Two ground electrodes at each of the new converter stations.

Bipole III adds 2,000 megawatts to Manitoba Hydro's high voltage direct transmission and strengthens the reliability of Manitoba's electricity supply by reducing dependency on existing high voltage direct current transmission lines and the Dorsey Converter Station. Prior to Bipole III, the two existing Bipole lines delivered over 70 per cent of the electricity produced in the province.

Due to its heavy reliance on one transmission corridor and a single converter station in the south (Dorsey), Manitoba Hydro's electricity system was vulnerable to extensive power outages from severe weather (major ice storm, extreme wind event, tornado), fires, or other events. The Riel Converter Station established a second converter station in southern Manitoba, to provide another major point of power injection into the transmission and distribution system.

Background

The Bipole III Project Environment Act Licence was issued August 14, 2013. In fall 2016, a review of the Bipole III budget and schedule was conducted and the budget was increased to $5.04 billion with an in-service date of July 2018.

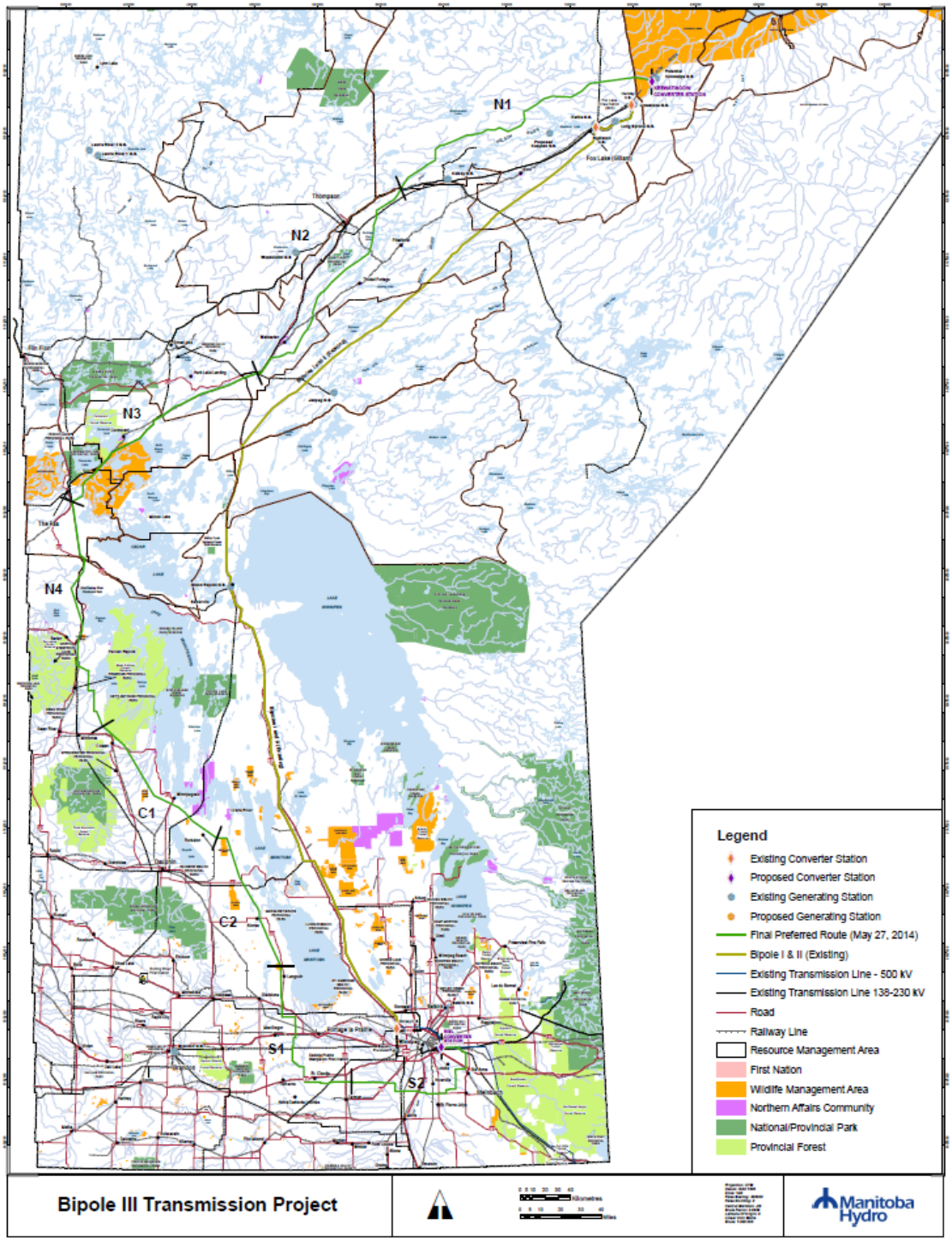
Keewatinohk and Riel Converter Stations
The Bipole III transmission line originates at a new northern converter facility, the Keewatinohk Converter Station, and terminates at a new southern converter facility, the Riel Converter Station. In addition to the new transmission line and the new converter stations, the project included new collector lines linking the Keewatinohk Converter Station to the northern collector system at the existing switchyards at Henday Converter Station and Long Spruce Generating Stations. Each of those facilities required some modifications for these new "collector lines". Each of the new converter stations required the development of a separate ground electrode, connected to the station by a low voltage feeder line.

Transmission Line Construction

The Keewatinohk Converter Station and the Riel Converter Station are linked by a new +/- 500 kV HVDC transmission line approximately 1,384 km in length, centered on a 66 meter wide right-of-way following a route west of lakes Winnipegosis and Manitoba. This new transmission line has been routed as far as practical, sufficiently far from the existing Bipole I and II lines so as to decrease the probability that a single catastrophic weather event or natural disaster would damage both the new transmission line and Bipoles I and II.

Below please find a map of the transmission line segments.

Map of the Bipole III Project



PROJECT UPDATE

On July 4, 2018 Bipole III was turned over for commercial service to Manitoba Hydro operations. With Bipole III now in-service, Manitoba Hydro has been balancing the transmission of HVDC power from northern Manitoba across Bipoles I, II and III.

A Recommendation was approved by Manitoba Hydro's Major Projects Executive Committee (MPEC) on August 28, 2018 to reduce the Bipole III control budget $271.8 million from $5.04 billion to approximately $4.77 billion. The new control budget, will be updated to reflect this number in IFF/CEF19.

The remaining work on the project includes the completion of the fourth and final synchronous condenser which is expected to be completed in November of 2018, the decommissioning of the temporary infrastructure at the Keewatinohk site, construction of a permanent water treatment plant and staff facilities at Keewatinohk.

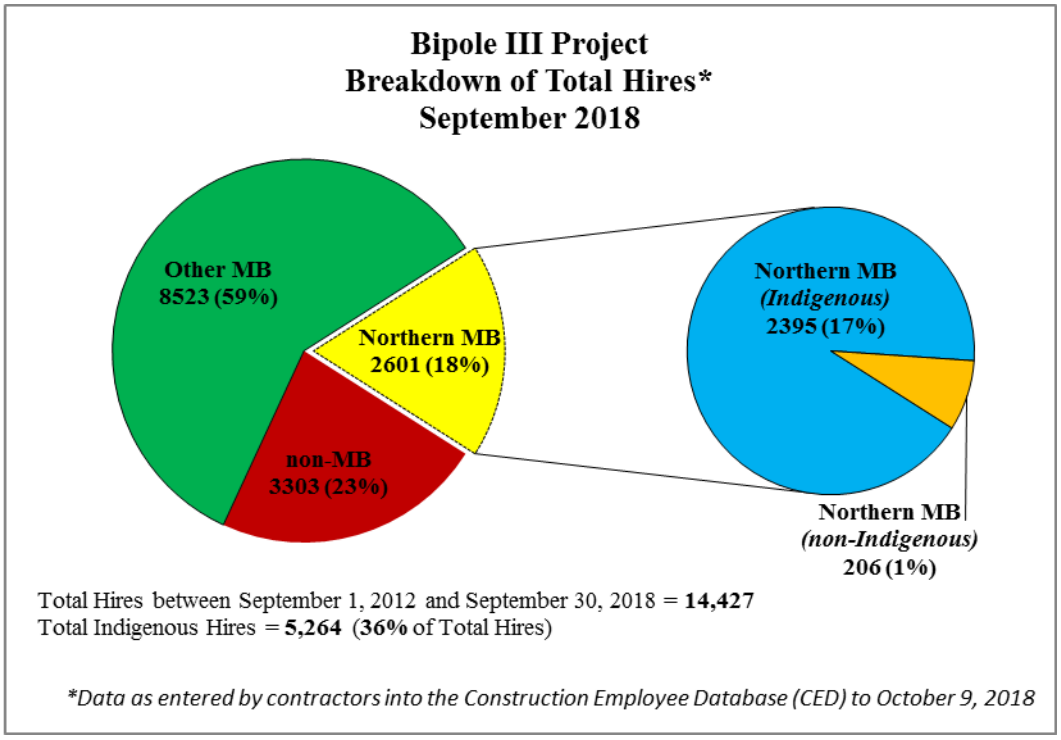
At the Keewatinohk Converter Station, A KWIS KI MAHKA, a joint venture company with Fox Lake Cree Nation has mobilized to site as part of the direct negotiated contract for the decommissioning and remediation of the site and the sewage lagoon.

Total Hires: – as of September 30, 2018

- Since September 2012 there have been a total of 14,427 hires to the Bipole III project.
- Of the total hires, 77% have been Manitoban, including 18% northern Manitobans.
- 36% of total hires have self-declared as being Indigenous.
    - 39% of Keewatinohk, 16% of Riel and 46% of the transmission line have self-declared as being Indigenous.

Active hires will no longer be reported under the Project. With the construction and commissioning phases near completion, the number of active hires is minimal.

Additional information is provided below regarding the percentage of project hires (Manitoban – both Northern and Other, along with non-Manitobans).



FINANCIAL SUMMARY

- A Recommendation was approved by Manitoba Hydro's MPEC on August 28, 2018 to reduce the Bipole III control budget $271.8 million from $5.04 billion to approximately $4.77 billion. The new control budget, will be updated to reflect this number in IFF/CEF19.
- Expenditures were $4.43 billion to the end of September 30, 2018.

Table A - Bipole III Budget Summary (in Billions $)

Item #	Item	Current Approved Budget (2016$)	Actuals to Sept 30, 2018
1.1	Transmission Line	1.457	1.505
1.2	Converter Stations	2.285	2.247
1.3	Collector Lines	0.199	0.193
1.4	Community Development Initiative	0.053	0.053
1.5	Escalation @ CPI	0.052	0.000
1.6	Interest (Capitalized)	0.487	0.435
1.7	Contingency	0.509	0.000
1.8	Total	5.042	4.433

Table A Notes:

1. The Escalation and Contingency Components (1.5 and 1.7) will have no actual costs incurred against them; these costs will form part of the actual costs in the Transmission Line, Converter Stations, Collector Lines, Community Development Initiative and Interest Components (1.1, 1.2, 1.3, 1.4 and 1.6).

Manitoba Hydro Update on Major Projects to the Public Utilities Board

Keeyask Project Update

Q2 Update ending September 30, 2018

EXECUTIVE SUMMARY

- Entering the 2018 construction season, the project required at least a 10% improvement in the General Civil Contract ("GCC") performance for the remainder of their work and no substantive risks to materialize to achieve the control budget. This year's progress to date has been positive and the cost of the project is tracking to the $8.7B control budget. The first unit In-Service Date (ISD) is trending towards 10 months ahead of schedule. While these results are positive, there is still a lot of work remaining.
- The control budget for the project remains at $8.7B. There are currently no changes in budget that would impact domestic revenue requirements or Manitoba Hydro's financial forecasts.
- In late August 2018, the Nelson River was successfully diverted through the spillway on schedule. River diversion is a significant milestone for the project and our First Nation partners. Concrete and earthworks placements were completed as planned.
- Actual expenditures to the end of September 30, 2018 were $5.21 billion.

PROJECT UPDATE

Background

- The Keeyask Generating Station is a 7 unit, 695-megawatt hydroelectric generating station under construction at Gull Rapids on the lower Nelson River in northern Manitoba.
- The Keeyask Project is a collaborative effort between Manitoba Hydro and four Manitoba First Nations, working together as the Keeyask Hydropower Limited Partnership.
- Keeyask will be Manitoba's fourth largest generating station and the sixth on the Nelson River.
- Construction of the Keeyask Generating Station commenced on July 16, 2014 after receipt of all required licenses and approvals.
- The Keeyask Project includes construction of the generating station as well as construction of supporting infrastructure. Most of the supporting infrastructure was constructed in advance of commencement of construction of the generating station under the Keeyask Infrastructure Project (KIP).
- The General Civil Works contract, the largest contract on the project, was awarded to BBE Hydro Constructors Limited Partnership consisting of Bechtel Canada Co., Barnard Construction of Canada Ltd. and EllisDon Civil Ltd. The General Civil Works contractor is responsible for rock excavation, concrete for the powerhouse and spillway, earth structures, electrical and mechanical work, and the construction and removal of temporary cofferdams needed to manage the river flow during construction.

Generating Station

- The General Civil Works Contractor (GCC) is on track for concrete placements on the Powerhouse complex. Approximately 87,000 m^3 of concrete has been placed so far in 2018. In total there has been approximately 250,000 m^3 of concrete placed on the project; approximately 77 per cent of the total volume of concrete required for the Keeyask Project.
    - The production rate and cost performance for concrete placements has improved in 2018 over the rates achieved in 2017 and the project is tracking to surpass the 2018 concrete production target.
- Unit 4 & 5 structural steel framing has been completed and the project is on track to enclose units 4 & 5 by the end of the year. Enclosure of these units will allow the Turbine and Generator contractor to install the embedded parts on units 4 & 5 this winter.
- Earthworks continued throughout the quarter as planned on the North Dam, Central Dam, South Dam Cofferdam and South Dyke. The North Dam was completed in the quarter to its final elevation. To the end of September 2018, approximately 94% of the planned 2018 earthworks quantities have been placed.

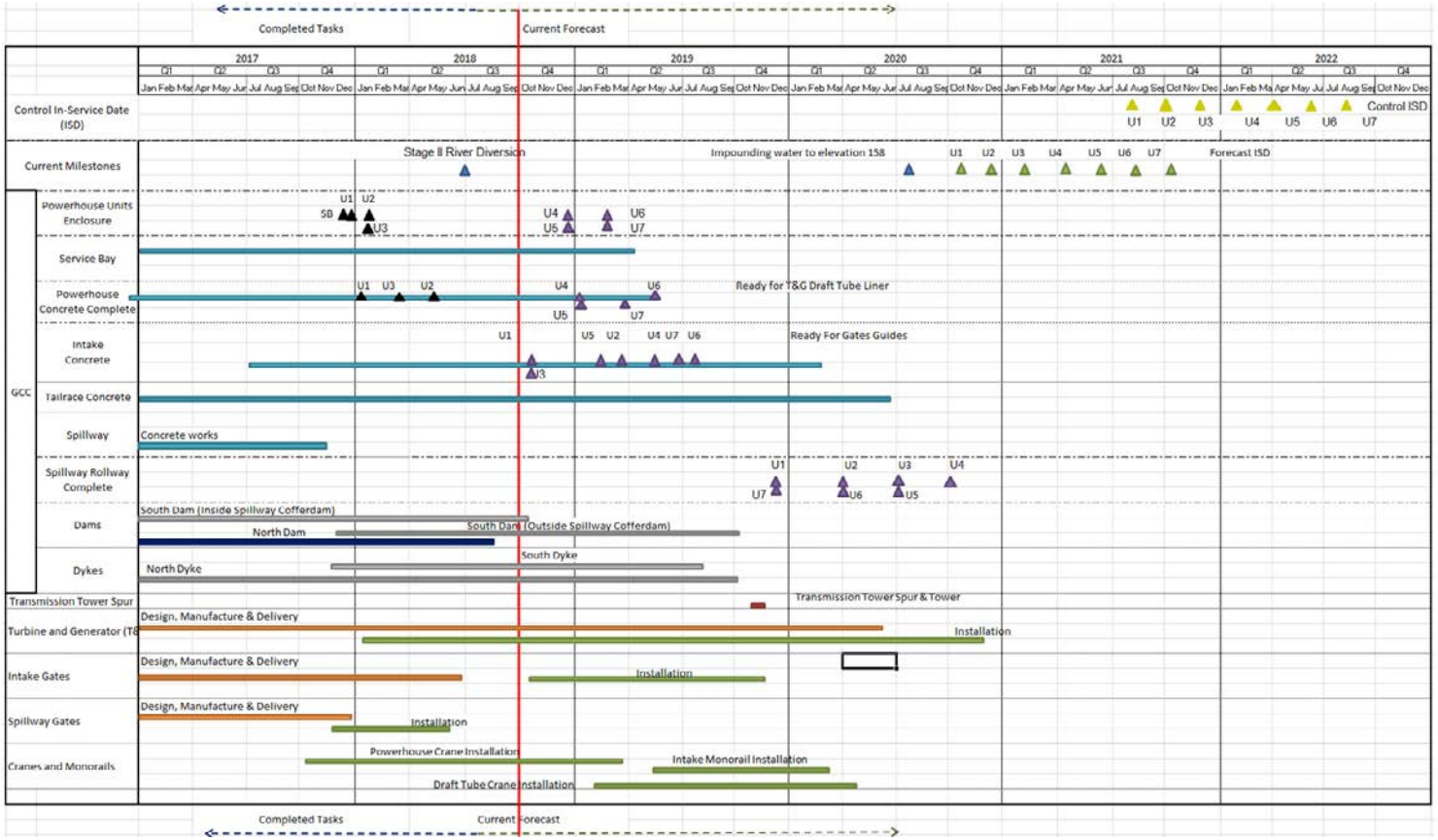
  - The production rate and cost performance for earthworks has improved in 2018 over the rates achieved in 2017 and the project is tracking to surpass the 2018 earthworks production goal.
- The Spillway gates, guides and hoists were commissioned over the summer allowing for the Nelson River to be successfully diverted through the Spillway in August 2018. The rock groins for the South Dam Cofferdam were constructed in August allowing for the entire flow of the river to be passed through the Spillway. Achievement of river diversion is an important milestone for both construction as well as for our First Nation partners. A river diversion ceremony was held with our First Nation partners at site on August 31 to recognize the significance of the permanent change to the waterway.
- Work is progressing on the turbines and generators. The unit 2 stay ring was installed and handed back to the GCC to complete the remaining concrete work. The assembly of the units 4 and 5 draft tube liners continues and are on track for installation this winter within the enclosed section of the Powerhouse.
- The top risks include:
  - Execution/productivity rates of the GCC.
  - Loss of site access/work stoppages - Any civil disorder could significantly impact Manitoba Hydro's ability to construct the Keeyask Generating Station on time and on budget.
  - Unexpected geotechnical/geological conditions at the South Dam/Dyke.
  - Unseasonable weather that shortens the warm construction season.

Infrastructure

- The construction of the rock groins across the south channel of the Nelson River allows construction traffic to travel across the river for the first time. Direct access from the project site to Gillam via the South Access Road is now possible, reducing travel time between Gillam and the project site by over 1 hour.

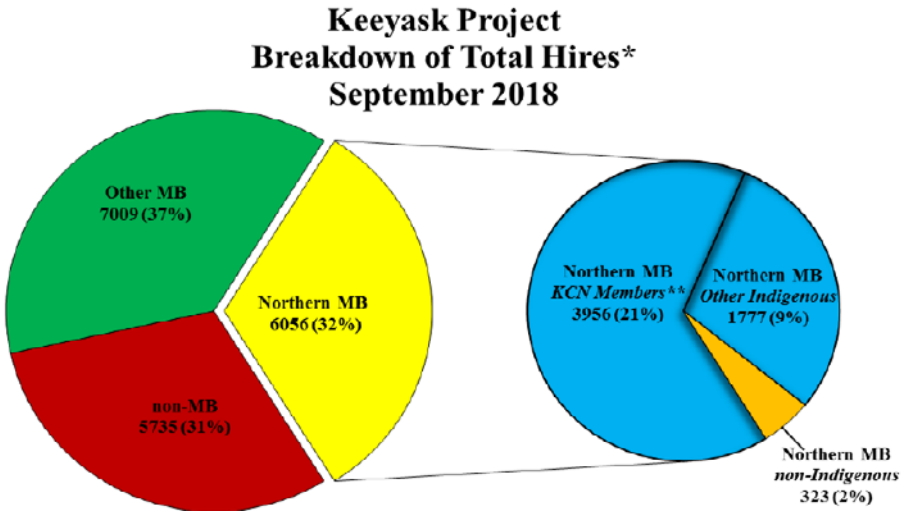
Project Schedule Overview – September 30, 2018

Note: Construction activities, milestones and unit ISDs reflect Manitoba Hydro's current forecast schedule. Presently, the forecast for the unit ISDs is in advance of the Control ISDs (August 2021 for first unit ISD).



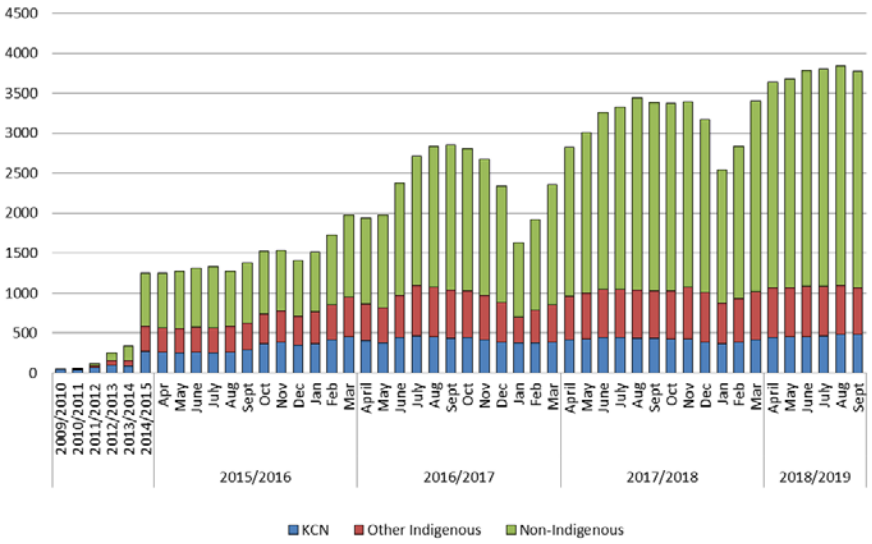
* This is a summary of MH's current plan broken down to the major component of construction and significant contractors, and how these components and milestones relate to river management and impoundment.
* "Control ISD" reflects MH communicated In-Service-Date ("ISD") dates, while "Current ISD" reflects current planned ISD dates which are currently 10 months ahead of the control ISD.
* Powerhouse concrete remains the project critical path driving the water impoundment. Construction of the dams and dykes are currently off the critical path.
*MH and Voith are working together to rework the Turbine and Generator schedule.

Total Project Hires – as of September 30, 2018



- As of September 30, 2018, there have been a total of 18,800 hires on the Keeyask Project. Of these total hires, 69% (13,065) are Manitobans, 43% (8,049) have self-declared as being Indigenous persons and 21% (3,976) of the total hires are Keeyask Cree Nation ("KCN") members.

Active Hires – as of September 30, 2018



- As of September 30, 2018 there were 3,771 active hires on the Keeyask Project. Of these active hires, 52% (1,979) are Manitobans, 28% (1,065) have self-declared as being Indigenous persons and 13% (481) are KCN members.

FINANCIAL SUMMARY

- Actual expenditures to the end of September 30, 2018 were $5.21 billion.

Table A - Keeyask Budget Summary (in Billions $)			
Item #	Item	Current Approved Budget (2016$)	Actuals to September 30, 2018
1.1	Generating Station	5.948	4.363
1.2	Generation Outlet Transmission (GOT)	0.202	0.136
1.3	Escalation @ CPI	0.249	0.000
1.4	Interest (including Interest on Equity)	1.749	0.709
1.5	Contingency	0.578	0.000
	Total	**8.726**	**5.208**

Table A Notes:
1. The Escalation and Contingency Components (1.3 and 1.5) will have no actual costs incurred against them; these costs will form part of the actual costs in the Generating Station, Generation Outlet Transmission and Interest Components (1.1, 1.2 and 1.4).

RECENT PHOTOS

Photo #1: Powerhouse Construction – September 30, 2018

Photo #2: Installation of the Unit 2 Stay Ring (Turbine and Generator embedded component) – September 18, 2018

Photo #3: Aerial View of the Spillway and Spillway Cofferdam Removal "in the wet" pre-river diversion – July 5, 2018

Photo #4: River Diversion Ceremony – August 31, 2018

Photo #5: Aerial view of the Nelson River post River Diversion – August 28, 2018

Photo #6: Dewatering and Excavation within the South Dam Cofferdam – September 30, 2018

Photo #7: North Dam at Final Elevation – September 1, 2018

Photo #8: Central Dam Construction – September 30, 2018

MMTP Project Description

Manitoba Hydro's capital expenditure forecast includes the construction of a new 500kV Transmission Line between Winnipeg and Duluth, Minnesota (MMTP).

The MMTP transmission line will originate at Dorsey Converter station located near Rosser, northwest of Winnipeg and extend 213 km south around Winnipeg to the Manitoba-Minnesota border, near Piney, Manitoba. The MMTP also includes associated upgrades at Dorsey, Riel and Glenboro stations.

The U.S. portion of the 500 kV line will initiate at the border and terminate at Iron Range Station near Grand Rapids, Minnesota. This project is known as the Great Northern Transmission Line (GNTL), and is being constructed by Minnesota Power.

MMTP Project Update

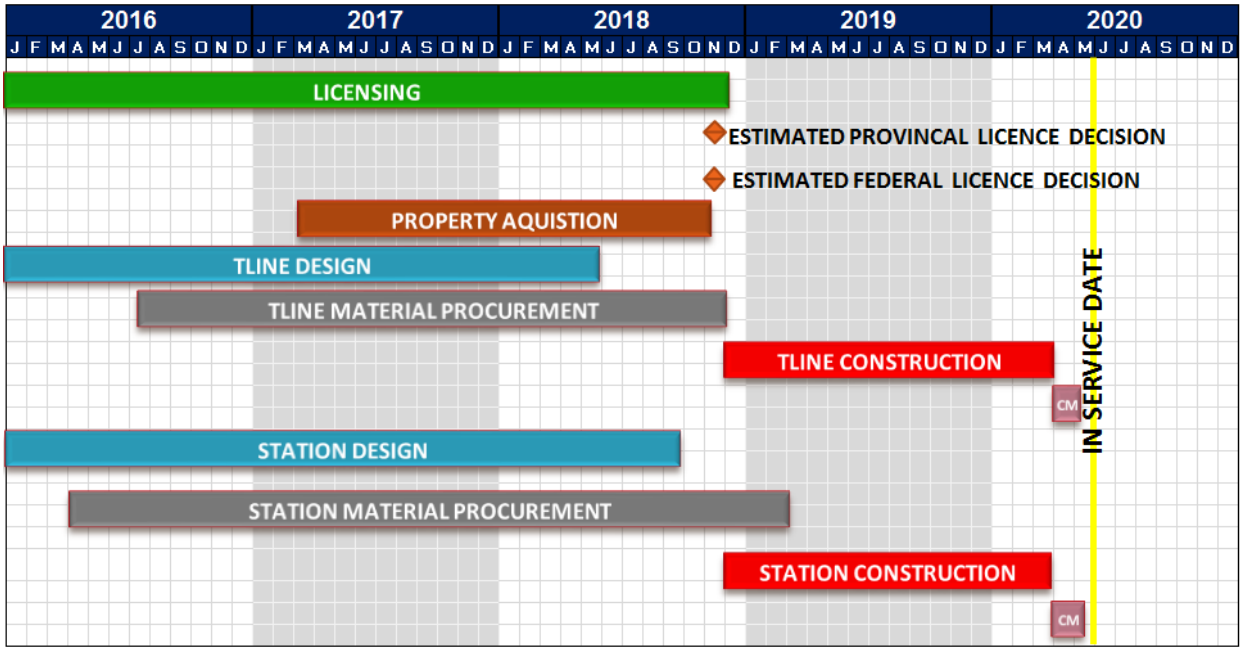
- Manitoba Hydro is awaiting a licensing decision by Manitoba Sustainable Development. Sagkeeng First Nation has filed a request for judicial review of the provincial licensing decision stemming from concerns around section 35 Consultation (aboriginal rights). Sagkeeng First Nation has put their judicial review of MMTP into abeyance until licensing decisions have been made.
- The National Energy Board (NEB) hearings for the Project were completed in June.
- Manitoba Hydro now awaits a decision and recommendation by the NEB on whether to issue a Certificate, which decision is then subject to the approval of the Governor in Council.
- Property acquisition is continuing and as of September 30th, just over 75% of the private land required along the proposed transmission line route between Vivian, Manitoba and the U.S. Border has been secured.
- In order to secure the project in-service date Manitoba Hydro must move forward with long lead time items such as the material contracts prior to receiving Provincial and Federal regulatory approvals. Failure to do so would result in substantial project delays. Should Manitoba Hydro receive notification that the project will not receive its necessary regulatory approvals, materials may be re-used on future transmission projects in order to recover sunk costs.
- Pre-cast foundation material deliveries are continuing to the existing material storage yard, and tower steel manufacturing is on track for deliveries to begin later this fall.
- The Request for Proposal (RFP) documents for two construction contracts were posted on MERX on June 13th, in order to protect an estimated construction start date of December 2018. The RFP closed on August 20th and bid submissions are being evaluated. Contracts will be awarded following receipt of regulatory approvals.

MMTP Budget

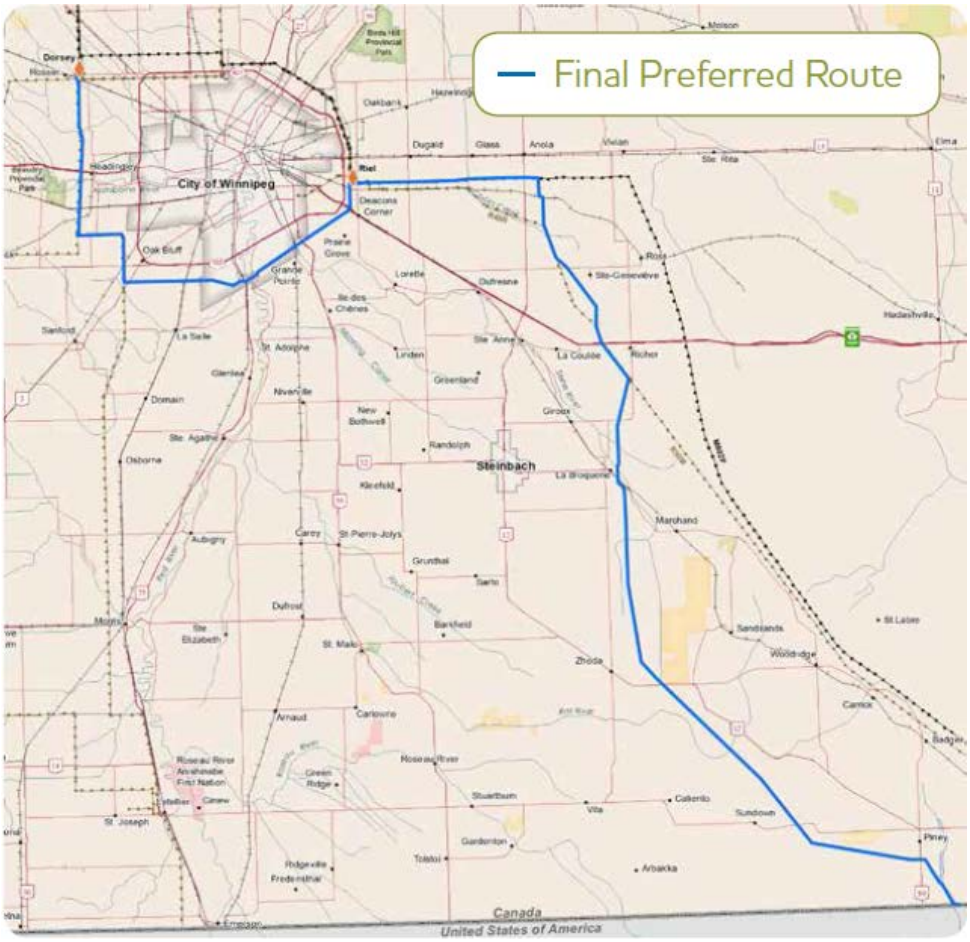
MMTP Budget Summary (in Millions $)			
Item #	**Item**	**Total Project Control Budget**	**Actual costs to Sept 30, 2018**
1.1	Licensing & Environmental	31.5	22.0
1.2	500 kV Transmission Line *	213.6	46.8
1.3	Station Upgrades*	112.8	11.7
1.4	Contingency	95.3	-
1.5	**Total**	**453.2**	**80.6**

*No construction contracts above $50 million are currently in place.

MMTP Project Schedule



MMTP Project Route



Birtle Project Description

Construction of the Manitoba portion of a new 230kV Transmission Line between Birtle, Manitoba and Tantallon, Saskatchewan is known as the Birtle Transmission Project. The Birtle transmission line (B71T) will originate at Birtle South Station and extend 46 km to the Manitoba-Saskatchewan border. The Birtle Transmission Project also includes upgrades to transmission line P52E as well as upgrades at Raven Lake, Virden West, and The Pas Ralls Island stations.

Birtle Project Update

- Manitoba Hydro (MH) filed the Environmental Act Proposal for the project on January 30, 2018. The license is anticipated to be received in June, 2019. Manitoba Sustainable Development is no longer considering changes to the Final Preferred Route to avoid the Spy Hill-Ellice Community Pasture and have moved forward with Section 35 consultation planning.
- Transmission line design activities are ongoing, with preliminary tower spotting completed. Material procurement for towers is expected commence in spring 2019.
- Land title searches have been completed for property acquisition. Land appraisals will be initiated in November 2018 and landowner discussions with property land agents are scheduled to begin in December 2018.
- Station Design activities for Birtle South Station are continuing. All major apparatus has been ordered with deliveries expected by August 2019.

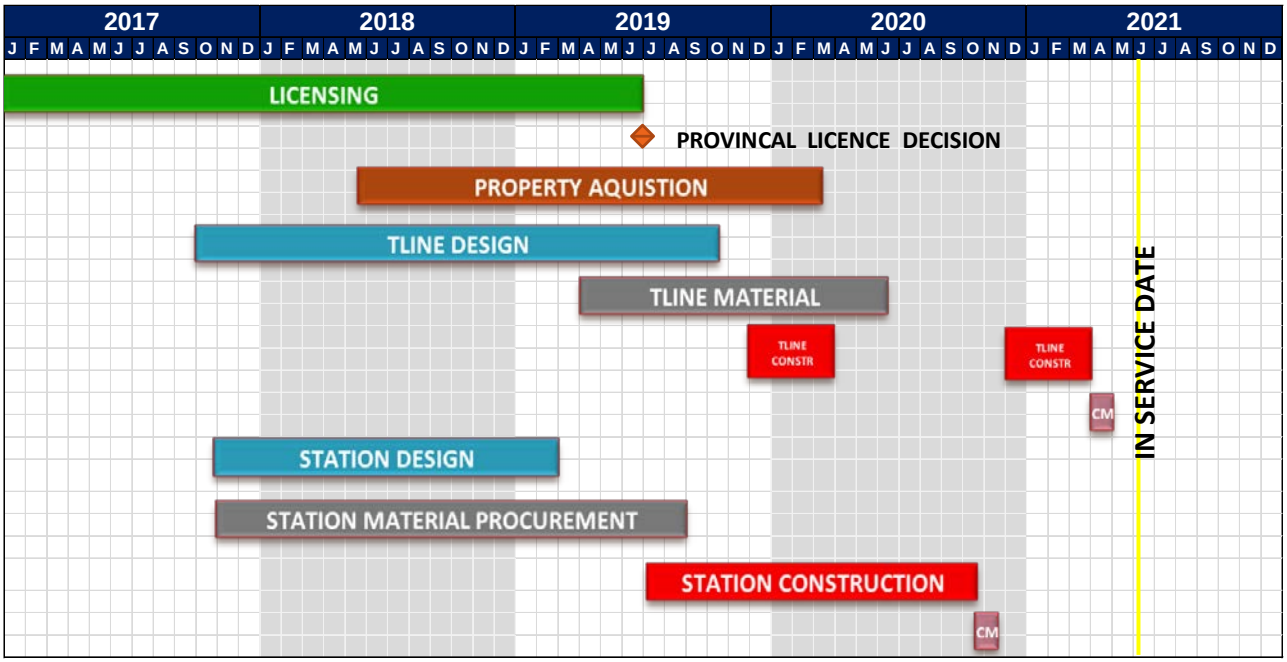
Birtle Budget

Birtle Budget Summary (in Millions $)			
Item #	**Item**	**Total Project Control Budget**	**Actual costs to Sept 30, 2018**
1.1	Licensing & Environmental	4.65	2.14
1.2	Transmission line[1]	43.83	0.54
1.3	Station Upgrades	7.94	0.28
1.4	**Total[2]**	**56.5**	**2.96**

1. In the current control budget contingency is built into the project costs.

Note: there are no construction contracts or contracts above $50 million currently in place.

Birtle Project Schedule



Birtle Final Preferred Route Map