

# **Nova Scotia Utility and Review Board**

**IN THE MATTER OF**

*The Maritime Link Act, S.N.S 2012 c.9  
and the  
Maritime Link Cost Recovery Process Regulation, N.S. Reg. 189/2012*

## **NSPML Quarterly Report Q2 2019**

**June 17, 2019**

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1 **1.0 INTRODUCTION**

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3 This is the Q2 2019 Quarterly Report for the Maritime Link as directed by the Utility  
4 and Review Board (UARB) where the UARB ordered in its Supplemental Decision:

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6 [115]....detailed reports must be filed by NSPML on a semi-  
7 annual basis, on June 15 and December 15 each year. The reports  
8 shall commence December 15, 2013. Updated status reports must  
9 be filed quarterly.

10  
11 As per the UARB's order in its Decision regarding the Maritime Link Interim Cost  
12 Assessment (M07718), this Report now includes detail regarding the status of the  
13 construction of Nalcor's assets.

14  
15 This Decision also requested that the quarterly reports include an accounting of all  
16 transactions related to this project, cash flow analysis, and a reporting of the financial  
17 and other benefits realized for ratepayers from the Maritime Link prior to delivery of  
18 the Nova Scotia Block and Nalcor market-priced energy. Given that the benefits to  
19 ratepayers prior to the Nova Scotia Block and Nalcor market-priced energy are secured  
20 by Nova Scotia Power through the Maritime Link, Nova Scotia Power will report on  
21 these in its Quarterly Fuel Adjustment Mechanism Report.

## 2.0 UPDATE OF PROJECT SCHEDULE

The Maritime Link was placed in-service on January 15, 2018. The construction of the Maritime Link is complete, with final punch list, site and subsea cable burial remediation activities all completed, and corrective activities underway.

With respect to Nalcor's assets, construction of the Labrador Island Transmission Link has been completed and the energization phase of the project began in June 2018. The completion of Muskrat Falls continues to be forecast for Q3 2020, and the Nova Scotia Block continues to be forecast by Nalcor to commence by Q2 2020.

## 2.1 Gates and Milestones

The Maritime Link was placed in-service January 15, 2018.

## 2.2 Safety

NSPML is committed to a shared set of values and beliefs placing a high priority on workplace health and safety. Continuing assessment and adjustment of a strong health and safety management system is one of the ways NSPML makes an explicit commitment to prioritizing safety.

In Q2, NSPML continues to seek opportunities for safety programming improvements while aligning corporately, as well as continuing to monitor contractor activities related to inspection, maintenance and remediation.

Ensuring that NSPML understands emerging issues and trends in workplace health and safety is critical to the effectiveness of the NSPML safety culture. NSPML continues to focus on the analysis of leading indicators through continued monitoring and improvement of the proactive reporting program. Continuous improvement across internal processes remained a priority throughout Q2.

1 **2.3 Commercial Activities**

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3 The key major procurement activities are presented in Table 1 with an update of the

4 status for each initiative.

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6 **Table 1 Key Major Procurement Activities**

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<b>Commercial Activity</b>	<b>Background</b>	<b>Initiative Number</b>	<b>Status in June 2019</b>
HVDC Submarine Cable Supply and Installation	The Contract was awarded to Nexans in January 2014.  Substantial Completion occurred in September, 2017.  Contract Final Completion Certificate signed February 5, 2018.	E11-18	Contract Closeout is in progress.
Converter stations, switchyards and related structures (“converters and structures”)	The Contract was awarded to ABB Inc. in June 2014.  Final System Test Completed January 15, 2018.  Substantial Completion achieved on January 15, 2018.	E12-74	Final documentation and system studies are being completed as well as delivery of final spare parts.

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<b>Commercial Activity</b>	<b>Background</b>	<b>Initiative Number</b>	<b>Status in June 2019</b>
Right of Way Clearing along Transmission Lines	Contracts were awarded to Majors Logging Limited in NL and to R. MacLean Forestry in NS in February 2014.	E13-88	Closed
Transmission Structures and Grillages	The Contract was awarded to Kalpataru Power Transmission Ltd. in September 2014 for design and delivery of Structures and Grillages.	E13-85	Contract closeout is in progress.
Site Preparation Services (Includes construction of access road upgrades)	The Contract was awarded to Joneljim Concrete Construction (1994) Ltd. for NS Site Preparation Services in September 2014.  Contracts awarded to Marine Contractors Inc., MCI Limited Partnership for NL Site Preparation Services in September 2014.	E13-92	Closed  Closed
Transmission Line Construction	E13-95 contract terminated as of late 2016.  Contract replaced with E16-284 and E16-269 previously reported.	E13-95	No Change
Transmission Line Construction – NL AC Line	The contract with PowerTel was re-assigned to NSPML for the completion of the two Grounding Lines and the HVAC Line.	E16-284	Contract Closeout is in progress. Final Completion was

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<b>Commercial Activity</b>	<b>Background</b>	<b>Initiative Number</b>	<b>Status in June 2019</b>
			achieved January 31, 2019.
Transmission Line Construction - NL and NS HVDC Lines	The contract for the construction of the HVDC Transmission Lines was awarded to a joint venture of Emera Utility Services and Rokstad Power Corporation (ERJV).	E16-269	Contract Closeout remains in progress.
Transmission Line Conductors	<p>The Contract for the supply of conductors was awarded to Midal Cables in March 2015. Contract close-out in progress.</p> <p>The contract for the supply of OPGW was awarded to Composite Power Group Inc. in June 2015. This is also within the scope of the E13-87 initiative.</p>	E13-87	<p>Contract Closeout remains in progress.</p> <p>Closed</p>
Horizontal Directional Drill (HDD) Construction Program	<p>Contract awarded to Directional Horizontal Drilling (DHD) in January 2016.</p> <p>E13-157 was divided into two contracts.</p> <p>E13-157 A was awarded to Schlumberger in March 2016 for the supply of HDD fluids. E13-157B was awarded to Baker Hughes in April 2016 for the</p>	<p>E13-156</p> <p>E13-157</p>	<p>Closed</p> <p>Closed</p>

**NSPML**

<b>Commercial Activity</b>	<b>Background</b>	<b>Initiative Number</b>	<b>Status in June 2019</b>
	<p>Supply of directional drilling services, drill bits and other materials.</p> <p>E13-158 for marine intervention services was awarded in April 2016 to DOF Marine.</p> <p>The supply of the HDD casing (E15-238) was awarded to East Coast Tubulars Limited in October 2015.</p>	<p>E13-158</p> <p>E15-238</p>	<p>Closed</p> <p>Closed</p>
Accommodations Operations	The contract for the accommodations operations services was awarded to East Coast Catering in April 2015.	E13-89	Closed

1



**1 2.3.1 Land Access Agreements**

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3 With final land surveys now completed, there are some new and amended easements  
4 required, particularly along the transmission and grounding lines. NSPML continues to  
5 actively pursue these easements, the majority of which are now in place. These  
6 easements do not impact the ability of the project to complete contract closeouts or to  
7 operate according to plan.

8

**9 2.3.2 Funding**

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11 The IE Certificates allow for Project costs to be paid from the proceeds of the Maritime  
12 Link Construction Loan under the payment terms of the Material Project Documents  
13 and the Maritime Link Credit Agreement. There have been no further draw certificates  
14 since February 2018.

15

**16 2.3.3 Joint Development Agreements**

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18 NSPML continues to work with Nalcor and NS Power to finalize the remaining  
19 operational agreements arising from the Formal Agreements with Nalcor. Please refer  
20 to Attachment 1 for details on the status of these Agreements, which indicate four  
21 Agreements remain to be concluded.

## 2.4 Engineering Activities

Engineering is captured in three main categories across several Work Breakdown Structures (“WBSs”):

- HVDC Submarine Cable Supply and Installation - Completed.
- HVDC Converters and Substations - The remaining engineering activities covering the review and acceptance of the last few engineering drawings are expected to be completed in Q2 2019. The outline covering the last remaining study for short circuit protection in the system has been agreed to with ABB, and the associated system models have been developed. The study is planned to be completed in 2019.
- Overland Transmission - The remaining light detecting and ranging (LIDAR) field surveys for NL lines have been completed and accepted by NSPML. The NL drawings and Power Line Systems Computer Aided Drafting & Design (PLSCadd) software package used for transmission line modelling and design, are completed.

## 2.5 Submarine Cables

Contract Final Completion Certificate was signed February 5, 2018 and the internal contract closeout is in progress.

2019 Submarine Cables work scope planning is well underway.

- Evaluation of the emerging deep-water redfish fishery continues with consideration for potential protection activities in 2019 in areas below 400m water depth. Engagement with DFO and related stakeholder and fishery groups continues.

- 1           •       The Cable Burial Risk Assessment tool developed using the As-Installed data  
2                    in 2018 is being updated with the As-Found data from the 2018 survey.  
3           •       Incident review of the subsea cable contact is ongoing.  
4           •       2019 cable and cable protection survey planning continued through Q2 and  
5                    work is being considered for Q3-Q4.

6

7           Routine preventative maintenance of the termination and transition sites and related  
8           land-based protection continues on a regular recurring basis. Visual inspections include  
9           site inspections, access road conditions, fencing, land cable berms and any related items.

10

## 11 **2.6 Converters and Substations**

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13           The Construction of the Converters and Substations was completed with the conclusion  
14           of system testing and the Maritime Link placed in-service on January 15, 2018. All  
15           punch list items have now been completed.

16

## 17 **2.7 Transmission Lines**

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19           The site remediation work on the transmission lines access and right-of-way has been  
20           completed. In response to inspection activities, completion of the remaining corrective  
21           work on some hardware components of the NL HVDC line is underway.

22

23           NSPML is working with design engineers to reroute a short section of the NL HVAC  
24           line near Southwest Brook, required due to soil erosion on the hillside near the base of  
25           three structures. It is anticipated that the work will be complete in 2019.

26

27           NSPML initiated a planned inspection program for the Maritime Link overhead  
28           transmission lines, with a 100% ground survey completed during the spring and summer  
29           of 2018. This work will continue into 2019.

30

31           The overhead transmission system continues to perform well through the second year  
32           of operations with no significant reliability or downtime impacts experienced.

1 Corrective requirements that were identified in the 2018 inspection program were either  
2 completed in 2018 or scheduled for completion in 2019. The root cause analysis for two  
3 specific issues associated with accessory components continues into 2019.  
4

## 5 **2.8 Independent Engineer**

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7 During construction of the Maritime Link, the Independent Engineer (IE) team  
8 completed several site visits and project inspections, at various stages in each province  
9 and provided reports to Canada, which have been provided to the UARB in earlier  
10 Quarterly Reports. NSPML has entered into a contract with the IE related to the  
11 Operations phase of the Maritime Link, as per the Federal Loan Guarantee requirements.  
12 Site visits will continue to occur routinely, and the IE will provide annual confirmation  
13 to Canada and the Collateral Agent that the assets are being operated and maintained  
14 appropriately.  
15

## 16 **2.9 Status of Nalcor Project and Muskrat Falls**

17  
18 Nalcor's latest project update indicates that overall construction of the Muskrat Falls  
19 Project is 97% completed<sup>1</sup> and confirms that the anticipated Muskrat Falls Generation  
20 Station (MFGS) completion schedule remains on track to commence delivering the NS  
21 Block by Q2 2020, as reported by NSPML in the 2017 interim assessment proceeding.  
22 Nalcor now projects completion of the third unit of the MFGS one month earlier than  
23 forecast at the time of the 2017 interim assessment proceeding, being May 2020 rather  
24 than June 2020.  
25

26  
27 Nalcor's monthly report for March indicates the following progress:  
28

- 29 • The Muskrat Falls Generating Facility reached 94 percent complete.  
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<sup>1</sup> Muskrat Falls Project Monthly Report, March 2019, dated May 22, 2019, page 4, section 2.0.

- 1           •     Both the Labrador-Island Transmission Link and the transmission line  
2                     connecting Churchill Falls to Muskrat Falls remain at over 99 percent complete.

3

4           For the Muskrat Falls Generating Facility, key recent activities include:

5

- 6           •     Civil work continued on the Intake and Powerhouse. In the Intake, civil scope at  
7                     Intake 2 was completed. In the Powerhouse, the generator slab was completed  
8                     for Unit 3 and the pit walls were completed in Unit 4.

9

- 10          •     Assembly continued on the runner, rotor and head cover for Unit 1 in the South  
11                     Service Bay.

12

- 13          •     Work continued on the balance of plant activities for architectural, electrical and  
14                     piping work; mechanical completion and commissioning.

15

- 16          •     Installation of Intake gates and hoists and all the electrical work associated with  
17                     the Intake hoist house was completed.

18

- 19          •     Intake was completed for water tight, and water-up commenced.

20

- 21          •     The removal of Intake channel fill material was completed. At the end of March,  
22                     Nalcor began to fill the intake channel with water. This water will flow through  
23                     the intakes into each of the four turbine and generator units in the powerhouse  
24                     when generation is ready to commence.

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**NSPML**

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1 **2.10 Status of Benefits to NS Power Customers**

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3 Customer benefits received to date will be reported by NS Power with its Quarterly

4 Fuel Adjustment Mechanism Report.

## NSPML

### 3.0 UPDATED COST SUMMARY

As per Enerco U-31, section 6, the details below outline the DG3 forecasted costs.

Table 2 provides an updated cost summary for the Maritime Link, which includes actual costs incurred as of March 31, 2019 and forecasted costs for the remainder of the Project's construction activities.

NSPML continues to track and report all costs, actual and forecast, consistent with the methodologies used in the cost forecast represented in the Maritime Link Project Application. Capitalized project costs include fully allocated costs for the entire Project Management Team, including contractors, employees, executives dedicated to the project, and NS Power seconded employees at affiliate mark-up rates according to the Affiliate Code of Conduct. All costs provided are in Canadian dollars.

Actual AFUDC has been tracked and recorded monthly up to December 31, 2017 and totals approximately \$209 million as of that date, which is below the \$230 million amount estimated at the time of filing of NSPML's Application.

**Table 2 Updated Cost Summary for the Maritime Link Project**

Description	Actual Costs											Estimate to Completion	Total Project Estimate at Completion (A)
	2011-2013	2014	2015	2016	2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Total Project to Date		
Emera NL Project Management Costs	44,379	42,315	24,599	25,639	32,721	4,207	3,628	4,026	3,928	2,711	188,152	2,576	190,727
Nalcor Project Support Costs	-	15,232	425	438	257	(33)	(110)	7	-	45	16,261	240	16,501
Construction and Engineering Initiatives	14,975	167,980	259,750	403,871	478,216	(7,403)	(1,934)	5,194	3,513	943	1,325,106	5,217	1,330,322
Environmental Approval	2,651	4,378	1,082	1,623	7,090	58	625	687	45	33	18,272	164	18,436
Submarine and related	3,359	83,797	74,439	54,213	115,511	19	(5,939)	10	13	-	325,422	(0)	325,422
Converters, structures, and other ancillary equipment	1,517	48,747	106,195	227,643	157,614	(513)	2,811	900	2,199	275	547,388	3,667	551,055
AC and DC Transmission	7,448	31,057	78,035	120,392	198,001	(6,967)	569	3,597	1,256	636	434,024	1,385	435,409
<b>Total</b>	<b>59,354</b>	<b>225,527</b>	<b>284,774</b>	<b>429,948</b>	<b>511,194</b>	<b>(3,229)</b>	<b>1,584</b>	<b>9,227</b>	<b>7,441</b>	<b>3,699</b>	<b>1,529,518</b>	<b>8,032</b>	<b>1,537,551</b>
Escalation											-	32,454	32,454
Contingency											-	7,349	7,349
<b>Grand Total</b>	<b>59,354</b>	<b>225,527</b>	<b>284,774</b>	<b>429,948</b>	<b>511,194</b>	<b>(3,229)</b>	<b>1,584</b>	<b>9,227</b>	<b>7,441</b>	<b>3,699</b>	<b>1,529,518</b>	<b>47,836</b>	<b>1,577,354</b>

**1 Total Actual Project Costs at end of Q1 2019 Compared to Previous Forecast**

2  
3 The total actual project capital costs incurred during Q1 2019 of \$3,699,000 are detailed  
4 below:

- 5  
6 • Emera NL Project Management Costs of \$2,711,000: Project management costs  
7 continue to be incurred as work advances relating to closing out of contracts,  
8 procuring and managing punch list, remediation and corrective activities, and  
9 ensuring appropriate documentation is in place for project closeout and  
10 regulatory purposes. NSPML has segregated these capital costs from costs  
11 relating to operating and maintenance activities and have expensed such  
12 operating and maintenance costs accordingly.
- 13  
14 • Nalcor Project Support of \$45,000: This reflects Nalcor services relating to  
15 construction activities.
- 16  
17 • Environmental Approval (EA) of \$33,000: This reflects the cost of EA  
18 monitoring and finalization of EA related compensation.
- 19  
20 • Converters, structures, and other ancillary equipment of \$275,000: This reflects  
21 the cost of NL Hydro and NS Power system upgrades and modifications, as well  
22 as the construction of material spares buildings in both provinces.
- 23  
24 • AC and DC Transmission of \$636,000: This reflects the costs of punch list,  
25 remediation and transmission line inspection activities.

26  
27 The Project remains within budget.

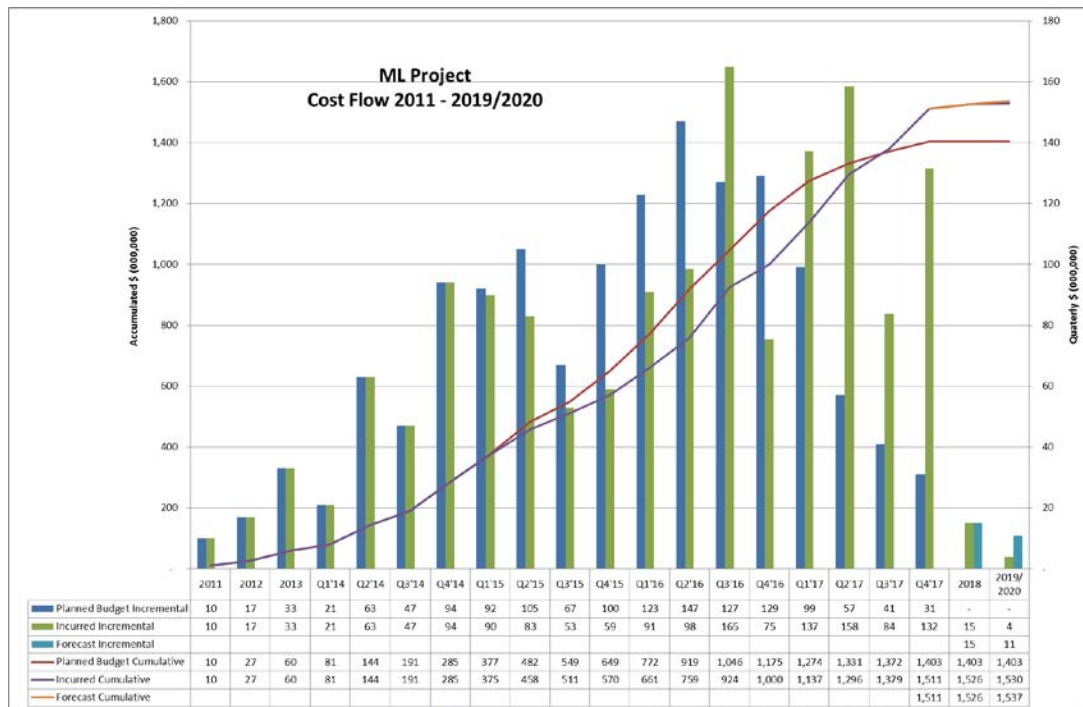


4.0 COST FLOW

As per Enerco U-31, section 2.2, please refer to Table 3 below for the cost flow of the Maritime Link.

The remaining budget includes forecasted costs relating to remediation and corrective activities as well as completion of documentation and close out of payments to contractors, as well as regulatory and environmental requirements relating to the construction aspect of the project. Certain of these costs are expected to take place in 2019/2020 and are expected to require further draws on remaining budgeted contingency and escalation balances. The total forecast of base capital spending, escalation, and contingency amounts for the project remains at or below \$1.577 billion.

Table 3 Maritime Link Cost Flow



**1 5.0 INTERIM ASSESSMENT FINANCIAL UPDATE 2018**

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With the Maritime Link placed in-service on January 15, 2018, NSPML continues to receive monthly cost recovery revenues from NS Power pursuant to the Board's November 2, 2017 Order. NSPML forecasts its 2019 operating and maintenance, debt and equity financing costs to be within the amounts budgeted for the year. The actual costs in 2018 were as reported in NSPML's audited financial statements filed with the UARB.

**Operating Agreement Requirements Arising from the Formal Agreements**

	<b>Agreement</b>	<b>Parties</b>	<b>Description</b>	<b>Formal Agreement Source</b>	<b>Status</b>
1.	Asset Interconnection Agreement (NL)	Emera, NLH	Interconnection of ML with the Island Interconnected System	ML-JDA, s. 2.1 (c )	Completed
2.	Multi-Party Pooling Agreement	Emera, NLH	NLH (SO) to have operational control of ML NLH AC Upgrades	ML-JDA, s. 2.1 (d )	Completed
3.	Transmission Operating Agreement (NL)	Emera, NLH	NLH (SO) to have operational control of ML NL HVdc Facilities	ML-JDA, s. 2.1 (e )	Completed
4.	Asset Interconnection Agreement (NS)	Emera, NSPI	Interconnection of ML with NS bulk electric transmission system	ML-JDA, s. 2.1 (f )(i)	Completed
5.	Transmission Operating Agreement (NS)	Emera, NSPI	NS SO to have general operational control of the ML	ML-JDA, s. 2.1 (f )(ii)	Completed
6.	ECA – Metering and Measuring Standards – Transmission Losses	NSPML, Nalcor	Metering and measuring standards used in the calculation of Transmission Losses	ECA, Schedule 3, s. 5	Completed
7.	Regulation Service Agreement	NS Power NLH	Nalcor’s provision of the Regulation Service with respect to the Nova Scotia Block for the Initial Term	ECA, Schedule 5	Expect completion in 2019
8.	Metering and Measuring Standards – NS NTQ transmission losses	NSPML, Nalcor	Metering and measuring standards used in calculation of NS –NTQ Path Peak and Off-Peak Hour transmission losses	NSTUA, Schedule 3, s. 6	Completed
9.	NB Back-up Capacity Agreement	Bayside Power L.P, Nalcor	Emera’s provision of backup Capacity to NB to Nalcor until March 31, 2021	NBTUA, s. 2.1(d)	No longer required given sale of Bayside to NB Power.
10.	IOA – ML Transmission Procedures	NSPI, NLH	Rules and practices applicable to administration of transmission service over the ML	IOA, Schedule D	Completed
11.	IOA – Reserve Sharing	NSPI, NLH	Sharing of energy and reserves between the Parties to improve Reliability	IOA, Schedule A	Completed
12.	IOA – Description of Interconnection Facilities	NSPI, NLH	Description of Interconnection Facilities for which each Party is responsible	IOA, Schedule B	Completed
13.	IOA – Functional Operating Relationship	NSPI, NLH	Various matters relating to operating relationship	IOA, Schedule C	Completed
14.	IOA – Operating Procedures	NSPI, NLH	IOC to develop “operating procedures”	IOA s.7.2 and s. 7.4(a)	Completed

15.	IOA – Schedule A1.0	NSPI, NLH	Parties to prepare a plan for NLH participation in Reliability Assessment Program (“RAP”)	IOA Schedule A1.0	Completed
16.	ML TSA – ML Scheduling Process	Emera and Nalcor	Scheduling process applicable to the provision of Firm Point-to-Point Transmission Service	MLTSAs, Schedule 2	Completed
17.	Amendments to Formal Agreements	Emera, Nalcor	Amendments to Formal Agreements required by Sanction Agreement	Sanction Agreement	Completed
18.	Energy Access Agreement	Emera, Nalcor	Commitments regarding access to market priced energy	Compliance Filing, Appendix A	Completed
19.	Balancing Service Agreement	Emera, Nalcor	Nalcor commitment to provide balancing services from generation sources in NL for 25 years.	Energy Access Agreement Term Sheet, s. 7(g) and Appendix 1	Completed
20.	Assignment of Transmission Rights under ML(E)TSA	Emera, Nalcor	Assignment of Transmission Rights	ML(E)TSA, s. 3.3 (h)	Expect completion in 2019
21.	Assignment of Energy Access Agreement	Emera, Nalcor, NSPI and Nalcor Energy Marketing (NEM)	Assignment/assumption of Nalcor’s rights and obligations to/by NEM	EAA s. 15.1 (a)	Expect completion in 2019
22.	Assignment of Nalcor Master Agreement (EAA Schedule 2)	Nalcor, NSPI and NEM	Assignment/assumption of Nalcor’s rights and obligations to/by NEM	Nalcor Master Agreement s. 10.5 (a)	Expect completion in 2019
23.	JOA-Joint Operating Committee (“JOC”)	Nalcor and NSPML	Establish/Operationalize JOC	JOA s. 3.1, 3.5	Completed
24.	NS Transmission Utilization Agreement	Nalcor and Emera	Status of Emera firm Point to Point Transmission Service	NSTUA s.s.2.2 (a)-(c)	Completed