
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 Q1 2017

April 17, 2017

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1 **1.0 INTRODUCTION**

2

3 This is the Q1 2017 Quarterly Report for the Maritime Link as directed by the Utility
4 and Review Board (UARB) where the UARB ordered in its Supplemental Decision:

5

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.

1 **2.0 UPDATE OF PROJECT SCHEDULE WITH VARIANCE EXPLANATION**

2
3 As per Enerco U-31, sections 1.1, 1.2, and 1.3, this section provides an update on the
4 project schedule, along with a variance explanation and general status updates.

5
6 Please refer to Attachment 1 for the Level 1 Project Schedule.

7
8 **2.1 Gates and Milestones**

9
10 The Project remains scheduled for energization in October of this year and for
11 commissioning by the end of Q4 2017. The Maritime Link is expected to be in-
12 service by January 1, 2018. NSPML is now planning for Decision Gate 4, at which
13 point the Maritime Link will be turned over to Operations.

14
15 **2.2 Safety**

16
17
18 On January 16, 2017, the Project suffered a tragic loss with the death of a contractor's
19 Powerline Technician. Stop work orders were issued by the NL OH&S Department to
20 the contractor for pole top activities and an investigation is underway for this tragic
21 event. Upon similar orders being placed on NSPML for comparable work, including
22 grounding and aerial related work and rescue plans, NSPML ordered a safety stand-
23 down to all contractors. During the stand-down, several elements of the safety
24 program of contractors were reviewed ranging from specific procedural reviews to an
25 assessment of Supervisory oversight on each job site. As part of this process, NSPML
26 required its contractors and subcontractors to demonstrate that the work could resume
27 safely through a comprehensive review of all safe work practices for each scope of
28 work prior to recommencement. Safety remains the highest priority for the company.
29 The stop work orders were lifted and all project activities have resumed.

30
31 In addition to the work carried out during the safety stand down, the project review of
32 high risk activities for new upcoming field activities by contractors continues to be

1 followed. In this quarter, safety reviews prior to the start of new work continued for
2 activities related to the transmission line construction, and the installation of the
3 equipment for the substations, converter building and yards and the other sites. In Q1,
4 several safety reviews were conducted with the supplier of the marine cable. The
5 safety reviews were carried out in Halden, Norway and Futtsu, Japan in advance of
6 the loadout of the cables and the preparation of the marine transport to Atlantic
7 Canada. Other safety reviews were conducted prior to the start of land based activities
8 at Point Aconi and Cape Ray. These reviews are in addition to the other safety
9 activities carried out each day such as the tool box safety discussions with each crew
10 and the Field Level Risk Assessments (FLRAs).

11
12 NSPML remains committed to a culture on the work sites that promotes world class
13 safety behaviours. As of February 28, 2017 over 3.273 million person hours had been
14 completed project-to-date, demonstrating favorable safety statistics with the exception
15 of the tragic January incident.

16 **2.3 Commercial Activities**

17
18 The key major procurement activities are presented in Table 1 with an update of the
19 status for each initiative.

1 **Table 1**

2

Commercial Activity	Status in December 2016	Initiative Number	Status in April 2017
HVdc Submarine Cable Supply and Installation	The Contract was awarded to Nexans in January 2014.	E11-18	No Change.
Converter stations, switchyards and related structures (“converters and structures”)	The Contract was awarded to ABB Inc. in June 2014.	E12-74	No Change.
Right of Way Clearing along Transmission Lines	Contracts were awarded to Majors Logging Limited in NL and R. MacLean Forestry in NS in February 2014. Contract closeouts were in progress.	E13-88	Contract closeouts are complete.
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	No Change.
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. The Contracts were awarded to Marine Contractors Inc., MCI Limited Partnership for NL Site	E13-92	The JonelJim contract closeout remains in progress. The contract closeout with MCI is complete.

Commercial Activity	Status in December 2016	Initiative Number	Status in April 2017
	<p>Preparation Services in September 2014.</p> <p>Contract closeouts were in progress.</p>		
Transmission Line Construction	This contract has been replaced with E16-284 and E16-269 as reported in the previous report.	E13-95	E13-95 contract has been terminated.
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	No Change.
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	No Change.
Transmission Line Conductors	<p>The Contract for the supply of conductors was awarded to Midal Cables in March 2015.</p> <p>Contract close-out was in progress.</p> <p>The contract for the supply of OPGW was awarded to Composite Power Group Inc. in</p>	E13-87	<p>The contract close-out remains in progress.</p> <p>The contract close-out remains in progress.</p>

Commercial Activity	Status in December 2016	Initiative Number	Status in April 2017
	<p>June 2015.</p> <p>This is also within the scope of the E13-87 initiative.</p> <p>Contract close-out was in progress.</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 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>E13-156</p> <p>E13-157</p> <p>E13-158</p> <p>E15-238</p>	<p>The following HDD Contracts are closed: Directional Horizontal Drilling (DHD) Baker Hughes DOF East Cost Tubulars</p> <p>The closeout of the Schlumberger remains in progress.</p>

Commercial Activity	Status in December 2016	Initiative Number	Status in April 2017
	The closeout of all HDD construction contracts were in progress.		
Accommodations Operations	The contract for the accommodations operations services was awarded to East Coast Catering in April 2015.	E13-89	The contract continues.

1

1 **2.3.1 Land Access Agreements**

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3 In NS, all UARB expropriation hearings have been successfully resolved through
4 negotiated agreements. In NL, there are only three outstanding disputed
5 expropriations. The process for hearing expropriation disputes rests with an
6 arbitration panel established by the government, and NSPML has worked with the
7 Chair of the panel and the NL Government for process and rules to enable hearings in
8 NL. NSPML has also filed applications for dormant expropriated parcels in NL; these
9 applications will be uncontested. Similar to NS, these applications are about fair
10 compensation valuation; land control has been obtained for the expropriated parcels.

11

12 **2.3.2 Funding**

13

14 As in prior months, Funding and Drawdown Requests containing comprehensive
15 details of costs for the upcoming month were submitted to the Collateral Agent and
16 Government of Canada as necessary, and all requested funds were received on
17 schedule. Please refer to Attachment 2 for the Independent Engineer (IE) Draw
18 Confirmation Certificates for the period. The IE Certificates allow for Project costs to
19 be paid from the proceeds of the ML Construction Loan under the payment terms of
20 the Material Project Documents and the ML Credit Agreement.

21

22 **2.3.3 Joint Development Agreements**

23

24 NSPML continues to work with Nalcor and NS Power to finalize the remaining
25 operational agreements arising from the Formal Agreements with Nalcor. Please refer
26 to Attachment 3 for details on the status of these Agreements.

1 **2.4 Engineering Activities**

2
3 Commissioning of the Maritime Link continues to align with the completion target
4 date of Q4 2017. Engineering is captured in three main categories across several Work
5 Breakdown Structures (“WBS’s”):
6

7 • HVdc Submarine Cable Supply and Installation - cable design and manufacturing
8 was engineered by the cable supplier and includes performance criteria consistent
9 with service life and reliability targets as approved by NSPML. Both subsea cables
10 have now been completely manufactured and successfully passed all testing
11 requirements. Other activities also advanced including preparations and
12 inspections of marine cable loadout and transportation from Futtsu, Japan and
13 Halden Norway, and the planning for trenching and rock protection. The
14 foundation for the spare cable turntable is underway and fabrication of the storage
15 carousel is complete. Preparation for the land work activities at Point Aconi and
16 Cape Ray, with regards to installation of land cables and transition compounds
17 where the cables will connect to the overhead transmission lines, commenced in
18 early March.
19

20 • HVdc Converters and Substations - engineering is included in the contract awarded
21 to ABB for the supply and installation of these assets. With construction activities
22 well underway at all sites, engineering is focused on site-related changes resulting
23 from interfaces with existing equipment, and final protection and control as current
24 systems are being modified to accept the new system. The remaining priorities
25 include the completion of the main circuit studies, Plant Circuit Diagrams (PCD),
26 finalization of supplier drawings for auxiliary systems and the Protection and
27 Control documentation.
28

29 • Overland Transmission - designs for the transmission and grounding lines are
30 complete and in-field modifications resulting from the contractor related as-found
31 geotechnical issues at each structure are ongoing.

1 **2.5 Submarine Cables (Marine)**

2

3 At Futtsu, Japan, cable manufacturing was completed in late February, followed by
4 successful Factory Acceptance Tests and loadout to the vessel. The heavy lift vessel
5 transporting the cable barge is in transit to Canada and scheduled to arrive in the first
6 week of May.

7

8 At Halden, Norway, cable manufacturing was completed in early March, followed by
9 the successful Factory Acceptance Tests and loadout to the vessel. The cable lay
10 vessel is in transit and scheduled to arrive in NL by mid-April. The installation of the
11 first marine cable is expected to start by early May, depending on weather conditions.

12

13 The manufacturing of the land cable was completed as reported previously and has
14 been shipped to NL and NS. Installations of the
15 land cables connecting the subsea cables to the
16 transition sites are scheduled to take place in Q2
17 and Q3.

18

19 On February 2, 2017, NSPML submitted a report
20 regarding onsite monitoring of Submarine Cable
21 Installation, along with a letter outlining
22 recommendations from the independent expert,
23 Cabletricity, and NSPML’s Planned Actions in
24 response to the recommendations. Please refer to
25 Attachment 4 for an update on these planned
26 actions.



Load out of Cable onto the barge at Futtsu



Vessel from Norway to transport one of the two cables to Canada

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1 **2.6 Converters and Substations**

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Bottom Brook: The construction of the HVdc converter building was affected by quality issues with the external panels. The contractor replaced the supplier and temporary hoarding was installed to permit certain internal works to continue with the installation of cable trays and other components. The arrival of the new panels started in late February and installation of the new interior and exterior panels are scheduled for completion in mid-April. The HVdc converter building is greater than 60 percent complete. The installation of the AC substation at Bottom Brook is greater than 90 percent complete and the HVac testing and pre-commissioning activities are in progress. The priority for construction is currently on the electrical / mechanical installation of the HVdc yards.

Woodbine: The status of the converter building is similar to the Bottom Brook building noted above including the continued installation of cable trays and other components. Progress continued in the month on the installation of the AC substation at Woodbine which is greater than 60 percent complete. Testing and pre-commissioning activities for the HVac substation is scheduled to begin in April. The priority for construction is currently on the completion of the HVac equipment and the electrical / mechanical installation of the HVdc yards.

Granite Canal: Work at Granite Canal was on hold for winter shutdown; remobilization occurred in mid-March. Civil works is complete and installation of major equipment is currently greater than 80 percent complete.

Cape Ray Transition Compound: Work continued with conduit installation and the grounding grid and related earthworks. The electrical installation at the site is greater than 50 percent complete.

Point Aconi Transition Compound: The work advanced with conduit installation, the grounding grid, drilling and installation of ground rods, and excavation for the light foundations. The electrical installation at the site is greater than 20 percent complete.

1 **2.7 Construction Contractor(s) – Transmission Lines**

2

3 The status of the transmission lines construction activities at the end of the period is
 4 detailed in Table 2.

5

6 **Table 2**

7

Transmission Line	Completion Target	Status
NL Grounding Line	September 2016	The NL grounding line is completed with the exception of the connections at each end.
NL DC Transmission Line	July 2017	This line is approximately 46 percent complete. Installation of foundations is at 42 percent complete, with 82 percent of towers assembled and 7 percent of towers erected.
NL AC Transmission Line	June 2017	This line is approximately 77 percent complete. Work on the foundations is now 85 percent complete, with approximately 63 percent of the framing of the poles completed and 48 percent of the conductor and fibre optic overhead completed.
NS Grounding Line	September 2016	The NS Grounding line is complete with the exception of the connection at Woodbine.

NS DC Transmission Line	June 2017	This line is approximately 81 percent complete. Installation of foundations increased to 99 percent complete with 98 percent of towers assembled and 77 percent of towers erected. Progress continues to be made on remaining anchor installations and tower erection. Stringing has commenced with 6 percent complete.
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The final tower installed on the NS HVdc line

3
4

1 **2.8 Granite Canal Accommodations Operations**

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3 The contract for the operations of the Granite Canal accommodations facility (E13-
4 89A) was awarded to East Coast Catering in April 2015. The camp has been in full
5 operation since July 2015.

6
7 **2.9 Grounding Sites**

8
9 The civil construction of the grounding site at Indian Head, NL was completed in July.
10 The installation of all electrical equipment is installed with the exception of the filter
11 and the connection to the grounding line.

12
13 The civil construction of the grounding site at Big Lorraine was completed including
14 all the rock reef installation and site cleanup. The installation of all electrical
15 equipment is installed with the exception of the filter. The connection to the grounding
16 line was completed in January.

17
18 **2.10 Independent Engineer**

19
20 The Independent Engineer (IE) team has completed several site visits and project
21 inspections, at various stages in each province. As well, IE team members have
22 witnessed the progress at each major manufacturing facility for cables, converters and
23 transformers on multiple occasions at key stages of manufacturing. The IE completes
24 confidential reports for Canada and provides a briefing to NSPML for each inspection.
25 The IE recently completed a factory visit to the Nexans manufacturing facility in
26 Futtsu, Japan. Once received, this IE Report will be provided in a forthcoming
27 Quarterly Report.

1 **3.0 UPDATED COST SUMMARY**

2

3 As per Enerco U-31, section 2.1, the detail below outlines the DG3 forecasted costs.

4

5 Table 3 below provides an updated cost summary for the Maritime Link, which
6 includes actual costs incurred as of December 31, 2016 and forecasted costs for the
7 remainder of the Project's construction phase.

8

9 NSPML continues to track and report all costs, actual and forecast (2011-2017),
10 consistent with the methodologies used in the cost forecast represented in the ML
11 Project Application. Project costs include fully allocated costs for the entire Project
12 Management Team, including contractors, employees, executives dedicated to the
13 project, and NS Power seconded employees at affiliate mark-up rates according to the
14 Affiliate Code of Conduct. All costs provided are in Canadian dollars.

15

16 Actual AFUDC is being tracked and recorded monthly. AFUDC remains within the
17 \$230 million amount estimated at the time of filing of NSPML's Application.

18

19 The project remains on target for completion in 2017 and within the approved budget
20 of \$1.577 billion.

Table 3

(000's of Canadian Dollars)	Actual Costs								Forecast				Total Project Estimate at Completion	
	Description	2011-2013	2014	2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Total Project to Date	Q1 2017	Q2 2017	Q3 2017		Q4 2017
Emera NL Project Management Costs	44,379	42,315	24,599	6,818	8,275	4,038	6,508	136,931	8,840	9,447	9,056	12,437	176,712	
Nalcor Project Support Costs	-	15,232	425	(20)	241	255	(38)	16,096	85	94	94	94	16,464	
Construction and Engineering Initiatives	14,975	167,980	259,750	83,891	89,966	161,024	68,990	846,576	138,988	162,362	52,196	37,677	1,237,800	
Environmental Approval	2,651	4,378	1,082	81	255	619	668	9,734	471	4,147	3,031	3,996	21,379	
Submarine and related	3,359	83,797	74,439	9,946	23,534	15,115	5,617	215,808	27,325	52,654	15,959	10,945	322,690	
Converters, structures, and other ancillary equipment	1,517	48,747	106,195	40,317	47,347	102,771	37,208	384,102	63,762	50,869	21,281	20,266	540,280	
AC and DC Transmission	7,448	31,057	78,035	33,547	18,830	42,519	25,496	236,932	47,430	54,692	11,926	2,470	353,450	
Total	59,354	225,527	284,774	90,689	98,482	165,317	75,459	999,602	147,914	171,903	61,346	50,209	1,430,976	
Escalation													32,454	32,454
Contingency									63	29,122	17,098	67,642		113,924
Grand Total	59,354	225,527	284,774	90,689	98,482	165,317	75,459	999,602	147,977	201,025	78,444	150,305	1,577,354	

Total Actual Project Costs at end of Q2, 2016 Compared to Previous Forecast

The total actual project costs for Q4 2016 were \$63.2 million less than the costs for the same period forecasted in the NSPML Quarterly Report of December 14, 2016. The explanations of the variances are as follows:

- ENL Project Management and Nalcor Project Support: \$2.3 million lower cost incurrence due to resourcing and administration.
- Environmental Approval: \$2.0 million lower cost incurrence primarily due to the timing of expenditures of environmental studies and stakeholder engagement costs.
- Submarine and related: \$0.2 million lower cost incurrence due to schedule activities related to the timing of the engineering and manufacturing of the submarine cables.

1 • Converters, structures and other ancillary equipment: \$16.5 million lower cost
2 incurrence due to slower progress achieved for civil construction and installation
3 activities for the Converter buildings and HVdc yards.

4
5 • AC and DC Transmission: \$42.2 million lower cost incurrence attributable to
6 slower progress on the NL DC and AC transmission lines by the transmission line
7 construction contractors.

8
9 The variances do not change the forecasted completion date of Q4 2017, and the
10 Project remains within budget.

1 **4.0 COST FLOW**

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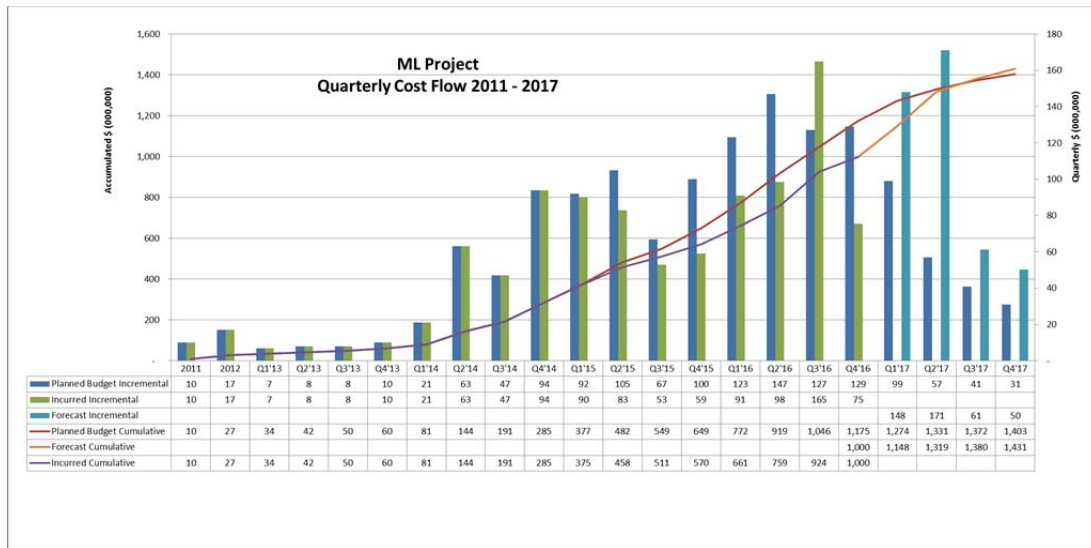
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11

As per Enerco U-31, section 2.2, please refer to Table 4 below for the cost flow until the Maritime Link is commissioned. This cost flow for the base capital spending is now forecast at \$1.431 billion from \$ 1.403 billion and a corresponding decrease in available contingency and escalation forecasted for the remainder of the project. The total of the base capital spending, escalation, and contingency amounts remains at \$1.577 billion.

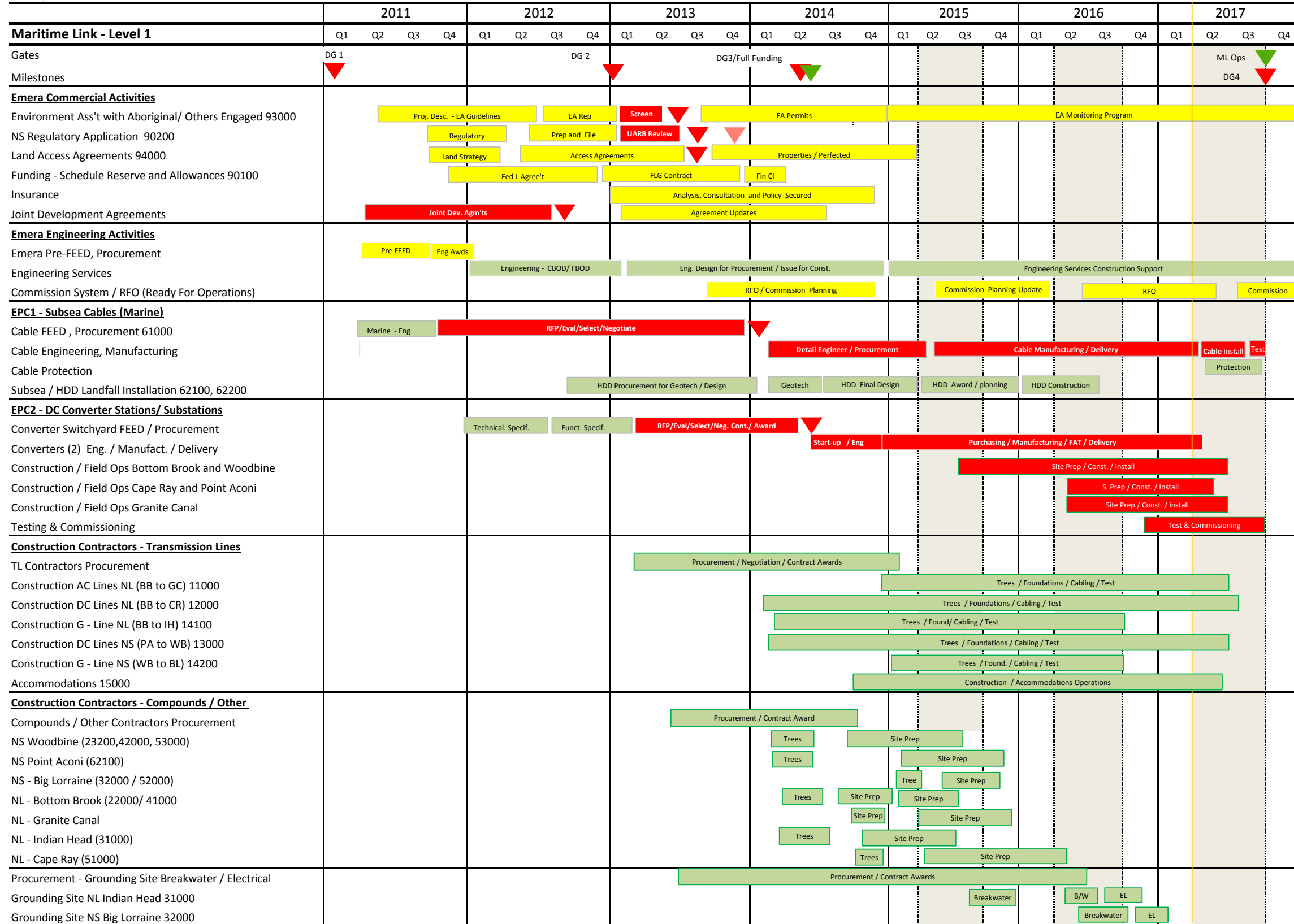
Table 4



12

Maritime Link Project Level 1 Project Schedule

Project Level 1 Schedule



SCHEDULE "Q"

DRAW CONFIRMATION CERTIFICATE BY INDEPENDENT ENGINEER

ML PROJECT FINANCING

This Draw Confirmation Certificate is provided by MWH Canada, Inc. (the "Independent Engineer") to The Toronto-Dominion Bank (the "Collateral Agent") in connection with the credit agreement dated February 24, 2014, between NSP Maritime Link Incorporated (the "Borrower"), Maritime Link Financing Trust (the "Lender") and the Collateral Agent (said agreement, as same may be amended, supplemented or restated from time to time, is hereinafter referred to as the "ML Credit Agreement"). Capitalized terms used in this Draw Confirmation Certificate not defined herein shall have the meanings assigned to them in Exhibit A of the ML Credit Agreement.

The Independent Engineer has (i) discussed matters believed pertinent to this Draw Confirmation Certificate with the Borrower and any relevant Material Project Participants, (ii) made such other inquiries as we have determined appropriate and (iii) reviewed:

- (a) the Construction Report dated December 20, 2016 (the "Construction Report"); and
- (b) the Borrower's funding request dated December 21, 2016 (the "Funding Request").

On the basis of the foregoing limited review procedures and on the understanding and assumption that the factual information contained in the Construction Report and Funding Request is true, correct and complete in all material respects, the Independent Engineer makes the following statements in favour of the Collateral Agent and to the best of its knowledge, information and belief, as of the date hereof that:

1. Construction of the Project is progressing in a satisfactory manner and in accordance with the terms of the applicable Material Project Documents with the following exceptions:

NO EXCEPTIONS NOTED

2. All payments to the Material Project Participants to be paid with the proceeds of the ML Construction Loan (including any payments using advances from the Working Capital Reserve Account during the period from the last Draw Confirmation Certificate to this Draw Confirmation Certificate) requested to be made pursuant to the Funding Request are allowed under the payment terms of the applicable Material Project Documents and the ML Credit Agreement as to the advance requirements of Section 7.3, with the following exceptions:

NO EXCEPTIONS NOTED

3. Assuming the Borrower exercises proper engineering and construction management throughout the remainder of the Project, we have no reason to believe that the

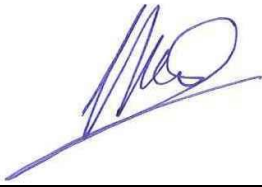
Commissioning Date will not occur prior to the Date Certain, or that the total Project Costs will exceed [\$1,577,354,028] with the following exceptions:

NO EXCEPTIONS NOTED

This Draw Confirmation Certificate is solely for the information and assistance of the Collateral Agent, the Lender and Canada in connection with the Funding Request and shall not be used, circulated or relied upon for any other purpose or by any other party.

Dated: January 03, 2017

MWH CANADA, INC.

A handwritten signature in blue ink, appearing to be 'MWH', is written over a horizontal line.

By: _____

Title: IE Team Leader

SCHEDULE "Q"

DRAW CONFIRMATION CERTIFICATE BY INDEPENDENT ENGINEER

ML PROJECT FINANCING

This Draw Confirmation Certificate is provided by Argirov Engineering Inc. (the "Independent Engineer") to The Toronto-Dominion Bank (the "Collateral Agent") in connection with the credit agreement dated February 24, 2014, between NSP Maritime Link Incorporated (the "Borrower"), Maritime Link Financing Trust (the "Lender") and the Collateral Agent (said agreement, as same may be amended, supplemented or restated from time to time, is hereinafter referred to as the "ML Credit Agreement"). Capitalized terms used in this Draw Confirmation Certificate not defined herein shall have the meanings assigned to them in Exhibit A of the ML Credit Agreement.

The Independent Engineer has (i) discussed matters believed pertinent to this Draw Confirmation Certificate with the Borrower and any relevant Material Project Participants, (ii) made such other inquiries as we have determined appropriate and (iii) reviewed:

- (a) the Construction Report dated February 21, 2016 (the "Construction Report"); and
- (b) the Borrower's funding request dated February 22, 2016 (the "Funding Request").

On the basis of the foregoing limited review procedures and on the understanding and assumption that the factual information contained in the Construction Report and Funding Request is true, correct and complete in all material respects, the Independent Engineer makes the following statements in favour of the Collateral Agent and to the best of its knowledge, information and belief, as of the date hereof that:

1. Construction of the Project is progressing in a satisfactory manner and in accordance with the terms of the applicable Material Project Documents with the following exceptions:

NO EXCEPTIONS NOTED

2. All payments to the Material Project Participants to be paid with the proceeds of the ML Construction Loan (including any payments using advances from the Working Capital Reserve Account during the period from the last Draw Confirmation Certificate to this Draw Confirmation Certificate) requested to be made pursuant to the Funding Request are allowed under the payment terms of the applicable Material Project Documents and the ML Credit Agreement as to the advance requirements of Section 7.3, with the following exceptions:

NO EXCEPTIONS NOTED

3. Assuming the Borrower exercises proper engineering and construction management throughout the remainder of the Project, we have no reason to believe that the


Commissioning Date will not occur prior to the Date Certain, or that the total Project Costs will exceed [\$1,577,354,028] with the following exceptions:

NO EXCEPTIONS NOTED

This Draw Confirmation Certificate is solely for the information and assistance of the Collateral Agent, the Lender and Canada in connection with the Funding Request and shall not be used, circulated or relied upon for any other purpose or by any other party.

Dated: February 24, 2017

Argirov Engineering Inc.

By:  _____

Title: IE Team Leader

SCHEDULE "Q"

DRAW CONFIRMATION CERTIFICATE BY INDEPENDENT ENGINEER

ML PROJECT FINANCING

This Draw Confirmation Certificate is provided by Argirov Engineering Inc. (the "Independent Engineer") to The Toronto-Dominion Bank (the "Collateral Agent") in connection with the credit agreement dated February 24, 2014, between NSP Maritime Link Incorporated (the "Borrower"), Maritime Link Financing Trust (the "Lender") and the Collateral Agent (said agreement, as same may be amended, supplemented or restated from time to time, is hereinafter referred to as the "ML Credit Agreement"). Capitalized terms used in this Draw Confirmation Certificate not defined herein shall have the meanings assigned to them in Exhibit A of the ML Credit Agreement.

The Independent Engineer has (i) discussed matters believed pertinent to this Draw Confirmation Certificate with the Borrower and any relevant Material Project Participants, (ii) made such other inquiries as we have determined appropriate and (iii) reviewed:

- (a) the Construction Report dated March 20, 2016 (the "Construction Report"); and
- (b) the Borrower's funding request dated March 27, 2016 (the "Funding Request").

On the basis of the foregoing limited review procedures and on the understanding and assumption that the factual information contained in the Construction Report and Funding Request is true, correct and complete in all material respects, the Independent Engineer makes the following statements in favour of the Collateral Agent and to the best of its knowledge, information and belief, as of the date hereof that:

1. Construction of the Project is progressing in a satisfactory manner and in accordance with the terms of the applicable Material Project Documents with the following exceptions:

NO EXCEPTIONS NOTED

2. All payments to the Material Project Participants to be paid with the proceeds of the ML Construction Loan (including any payments using advances from the Working Capital Reserve Account during the period from the last Draw Confirmation Certificate to this Draw Confirmation Certificate) requested to be made pursuant to the Funding Request are allowed under the payment terms of the applicable Material Project Documents and the ML Credit Agreement as to the advance requirements of Section 7.3, with the following exceptions:

NO EXCEPTIONS NOTED

3. Assuming the Borrower exercises proper engineering and construction management throughout the remainder of the Project, we have no reason to believe that the Commissioning Date will not occur prior to the Date Certain, or that the total Project Costs will exceed [\$1,577,354,028] with the following exceptions:

NO EXCEPTIONS NOTED

This Draw Confirmation Certificate is solely for the information and assistance of the Collateral Agent, the Lender and Canada in connection with the Funding Request and shall not be used, circulated or relied upon for any other purpose or by any other party.

Dated: March 29, 2017

Argirov Engineering Inc.

A handwritten signature in blue ink, appearing to be 'M. Argirov', written over a horizontal line.

By: _____

Title: IE Team Leader

Operating Agreement Requirements Arising from the Formal Agreements

	Agreement	Parties	Description	Formal Agreement Source	Status
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 with exception of execution; expect execution in Q2, 2017.
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 with exception of execution; expect execution in Q2, 2017.
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	NSPML, Nalcor	Nalcor’s provision of the Regulation Service with respect to the Nova Scotia Block for the Initial Term	ECA, Schedule 5	Expect completion in 2017
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)	Expect completion in 2017
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	NSPI, NLH	Sharing of energy and	IOA, Schedule A	Expect

	Sharing		reserves between the Parties to improve Reliability		completion in 2017
12.	IOA – Description of Interconnection Facilities	NSPI, NLH	Description of Interconnection Facilities for which each Party is responsible	IOA, Schedule B	Expect completion in 2017
13.	IOA – Functional Operating Relationship	NSPI, NLH	Various matters relating to operating relationship	IOA, Schedule C	Expect completion in 2017
14.	IOA – Operating Procedures	NSPI, NLH	IOC to develop “operating procedures”	IOA s.7.2 and s. 7.4(a)	Expect completion in 2017
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	Expect completion in 2017
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 2017
21.	Assignment of Energy Access Agreement	Emera, Nalcor, NSPI and NEM	Assignment/assumption of Nalcor’s rights and obligations to/by NEM	EAA s. 15.1 (a)	Expect completion in 2017
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 2017
23.	JOA-Joint Operating Committee (“JOC”)	Nalcor and NSPML	Establish/Operationalize JOC	JOA s.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

Cable Onsite Monitoring – Update on Recommended Actions

Recommendation Number	Recommendation	NSPML's Planned Actions	Status regarding NSPML's Actions
5	It is recommended that NSPML review all Nexans' existing on-site installation ITPs to ensure that they accurately describe NSPML's intentions to Witness important on-site installation activities.	NSPML will review the suggested ITP's and ensure they describe NSPML's intent to Witness an activity as required.	ITP's reflect the witness and hold points NSPML has specified. NSPML have attended all specified to date.
9	It is recommended that NSPML direct additional effort toward ensuring that all MDR documents are completed and IFC before May 1, 2017 when the first cable is scheduled to be pulled ashore through a Cape Ray HDD conduit.	NSPML will have all document reviews completed and documents updated prior to the relevant activity occurring.	All documents required for the works in the early stage of the campaign have been completed, and NSPML has reviewed and accepted them. Only those for rock placement remain to be reviewed, and these will be completed in advance of the work start.
13	It is recommended that Nexans update their Risk Register to incorporate results of the HAZOP studies and contingency plans described in the various Nexans installation quality plan documents.	NSPML will ensure that Nexans update their Risk Register with the results of all HAZOP studies and contingency plans, including all future activity, and ensure that all identified risks are considered and mitigated.	NSPML continues to monitor risk management activities including the completion of other planned HAZOPs. All are on schedule and risks will be closed before the activity associated with the risk activity commences.
14	It is recommended that NSPML's on-site installation monitoring activities concentrate on activities in the updated Risk Register that identify high unmitigated and high residual risks.	NSPML will ensure all risks have appropriate mitigation plans. If a risk cannot be adequately mitigated resulting in an acceptable residual risk, NSPML will continue to work with Nexans to revise its	All risk reviews have been completed and mitigation plans are in place. There are no outstanding issues.

		approach to reduce or eliminate the risk.	
16	It is recommended that at least some of the monitoring positions be provided by power cable engineers having experience with installation of long distance HVDC submarine cables in deep water and are well informed about HVDC cable system designs and installations. Others should be provided by experienced offshore installation/construction project engineers, ideally with experience in the geographic area. The relatively short-time requirements suggest using consultants or temporary transfer assignments from similar recently completed projects.	NSPML is in discussions with a consulting firm with applicable experience at this time. NSPML will retain resources with this type of experience to be engaged prior to and during the submarine cable installation.	Two individuals have been hired from Intertek Metoc with previous interconnectors/wind farms/Capjet project, and joint experience of more than 50 years. This compliments the other team members that have extensive experience in the project area.
18	It is recommended that NSPML prepare on-site Installation Monitoring Plan prior to commencement of cable system installations.	NSPML will have an on-site Installation Monitoring Plan prior to commencement of cable system installations.	<p>Measures have been put in place.</p> <p>NSPML will have a full time presence at the landfall points, with rotation between three Construction Supervisors and two cable engineers doing jointing/testing.</p> <p>There will be 24 hour coverage on all ships during the offshore campaign, using two client representatives on each ship for 12 hour shifts. There will be rotation between five representatives, with each client representative spending 28 to 30 days continuously at sea.</p>

19	It is recommended that NSPML consider consulting with on-site monitors from the Strait of Belle Isle HVDC submarine cable crossing project regarding their 'lessons learned'. This would help to address some of the 'continuous improvement' aspects of ISO 9001 with respect to site installations and monitoring, albeit for a somewhat different regional application but also via a Nexans contract.	NSPML has conducted such reviews in the past with Nalcor. NSPML will also meet with Nalcor to discuss their experience with installation of their submarine cables. NSPML is currently targeting February 27, 2017 for this review.	This review was completed with Nalcor in Q1, 2017.
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