

**NON-CONFIDENTIAL**

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1 **Request IR-30:**

2  
3 **With respect to the response to IR-1, which referred to page 33, Line 13 of the Application**  
4 **regarding the expected service life of the Maritime Link facilities being 50 years, NSPML**  
5 **have responded that calculations of predicted life of XLPE cables are based on the**  
6 **prequalification testing as per CIGRE TB 496. CIGRE TB 496, Clause 1.53, gives test**  
7 **voltages and CIGRE TB 496, Appendix A, states that a value of 10 for n, the life exponent**  
8 **from V-t characteristics, and a system life of 40 years has been used in the determination of**  
9 **the voltage test factors:**

10  
11 **(a) Has NSPML required proponents to demonstrate the value of n from endurance**  
12 **tests on cables for the particular combination of insulation materials and semi-**  
13 **conductive screens which are proposed for the Maritime Link cable and at the**  
14 **proposed operating temperature?**

15  
16 **(b) Has NSPML required proponents to use test voltages to demonstrate a 50 year life,**  
17 **rather than the 40 year life upon which the test voltages in CIGRE TB 496, Clause**  
18 **1.53, are based?**

19  
20 **(c) What is the duration allowed for prequalification testing as per CIGRE TB 496 in**  
21 **the project schedule and does this affect the planned commissioning date?**

22  
23 **Response IR-30:**

24  
25 **(a) No, NSPML has not required proponents to demonstrate the value of n from endurance**  
26 **tests on cables. The CIGRE 496 report recommends a value of 10, as a conservative**  
27 **estimate of the cable design performance. This Cigre reference contains the**  
28 **recommendations of a technical working group for pre-qualification and type tests**  
29 **associated with HVDC power cable and accessories that use extruded insulation systems.**

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- 1
- 2 (b) NSPML has required proponents to provide pre-qualification tests that meet the
- 3 requirements of the system, which will include the test voltage verification to demonstrate
- 4 the 50 year life. If the proponent can demonstrate to NSPML's satisfaction that they have
- 5 previous pre-qualification tests showing it would meet the 50 year life then additional
- 6 tests would not be required. If the proponent does not have a cable which would meet the
- 7 requirements we would request the proponent to conduct the pre-qualification test at the
- 8 voltage to demonstrate a 50 year life.
- 9
- 10 (c) Duration for pre-qualification testing is as per CIGRE TB 496 – 360 days. The duration
- 11 is included within the project schedule.

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1 **Request IR-31:**

2

3 **With respect to the response to IR-1, which referred to page 33, Line 13 of the Application**  
4 **regarding the expected service life of the Maritime Link facilities being 50 years, NSPML**  
5 **have responded that the proponents of submarine cable systems have been requested to**  
6 **provide erosion and corrosion calculations for a design life of 50 years:**

7

8 **Have NSPML considered whether the return sea current will flow along the cable armor**  
9 **wires and accelerate their corrosion, particularly when the Maritime Link is operating in**  
10 **Monopole as described in page 63, Line 6, of the Application?**

11

12 **Response IR-31:**

13

14 NSPML does not consider the return sea current flowing along the cable armor wires as a  
15 significant risk to accelerate the corrosion of the wires. The current flow would be small and  
16 events resulting in the occurrence would be infrequent as the operation of the system in a  
17 Monopole application would be minimized.

18

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1 **Request IR-32:**

2

3 **With respect to the response to IR-1, which referred to page 33, Line 13, of the Application**  
4 **regarding the expected service life of the Maritime Link facilities being 50 years, NSPML**  
5 **have responded that calculations of predicted life of XLPE cables are based on the**  
6 **prequalification testing as per CIGRE TB 496. CIGRE TB 496, Clause 3.1, gives the range**  
7 **of approval for prequalification tests:**

8

9 **(a) Have proponents offered XLPE insulated cables and accessories for the Maritime**  
10 **Link project which differ in any way from those upon which prequalification tests**  
11 **have been, or are to be, performed?**

12

13 **(b) Please give details?**

14

15 **(c) Have proponents offered XLPE cables and accessories for the Maritime Link**  
16 **project which would be manufactured in the same manufacturing facility using the**  
17 **same manufacturing plant those upon which prequalification tests have been, or are**  
18 **to be, performed?**

19

20 **(d) Please give details?**

21

22 **(e) If there are differences which proponents claim not to constitute a substantial**  
23 **change, have proponents provided a detailed case including test evidence as**  
24 **required by CIGRE TB 496, Clause 3.1?**

25

26 **(f) Please give details?**

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1 **(g) Clause 3.1 (b) of CIGRE TB 496 gives requirements for the average electrical stress**  
2 **and Clause 3.1 (c) of CIGRE TB 496 gives requirements for the Laplace electrical**  
3 **stress. Have proponents been required to calculate actual electrical stresses at a**  
4 **range of operating temperature conditions, at constant DC voltage and with**  
5 **superimposition of lightning impulse stresses?**

6  
7 **(h) Please give details?**

8  
9 Response IR-32:

10  
11 (a) No, the proponents have not offered XLPE insulated cables and accessories for the  
12 Maritime Link project which differ in any way from those upon which prequalification  
13 tests have been, or are to be, performed.

14  
15 (b) Not applicable.

16  
17 (c) Yes, proponents have offered XLPE cables and accessories for the Maritime Link project  
18 which would be manufactured in the same manufacturing facility using the same  
19 manufacturing plant as those upon which prequalification tests have been, or are to be,  
20 performed.

21  
22 (d) NSPML is currently in the midst of the evaluations and will begin negotiations soon.  
23 NSPML will ensure manufacturing history and test results of each proposed facility are  
24 fully considered in the selection of the supplier and facilities approved to produce the  
25 cables.

26  
27 (e) No, proponents have not claimed any differences for the XLPE offerings to this point in  
28 the evaluation.

29  
30 (f) Not applicable.

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1 (g-h) The proponents are required to calculate the actual electrical stresses based on the  
2 requirements in CIGRE TB 496 over a range of operating temperature conditions, at  
3 constant DC voltage. To do so with superimposition of lightning impulse stress was not  
4 required. These calculations will have to be performed as part of the insulation  
5 coordination with the successful convertor station supplier. During the negotiations, the  
6 successful proponent will be required to perform these calculations.

7  
8 This Cigre reference (TB 496) contains the recommendations of a technical working  
9 group for pre-qualification and type tests associated with HVDC power cable and  
10 accessories that use extruded insulation systems.

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1 **Request IR-33:**

2  
3 **With respect to the response to IR-1, which referred to page 33, Line 13 of the Application**  
4 **regarding the expected service life of the Maritime Link facilities being 50 years, NSPML**  
5 **have responded that calculations of predicted life of MI cables is based on Type testing in**  
6 **accordance with Electra No.189 and no. 218 articles. Clause 1.7 of the Electra No. 189**  
7 **article gives details of the characteristics of the cables:**

8  
9 **(a) Have proponents offered MI cables and accessories for the Maritime link project**  
10 **which differ in any way from those upon which type tests have been, or are to be,**  
11 **performed?**

12  
13 **(b) Please give details?**

14  
15 **(c) Have proponents offered MI cables and accessories for the Maritime Link project**  
16 **which would be manufactured in the same manufacturing facility using the same**  
17 **manufacturing plant those upon which type tests have been, or are to be,**  
18 **performed?**

19  
20 **(d) Please give details?**

21  
22 **Response IR-33:**

23  
24 **(a) No, proponents have not offered MI cables and accessories for the Maritime link project**  
25 **which differ in any way from those upon which type tests have been, or are to be,**  
26 **performed.**

27  
28 **(b) Not applicable.**

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1 (c) Yes, proponents have offered MI cables and accessories for the Maritime Link project  
2 which would be manufactured in the same manufacturing facility using the same  
3 manufacturing plant those upon which type tests have been, or are to be, performed.  
4

5 (d) NSPML is currently in the midst of the evaluations and will begin negotiations soon.  
6 NSPML will ensure manufacturing history and test results of each proposed facility are  
7 fully considered in the selection of the supplier and facilities approved to produce the  
8 cables.  
9

10 The Electra references contain, respectively:  
11

12 Electra Article No. 189 – Recommendations for Tests of Power Transmission DC  
13 Cables for a Rated Voltage up to 800kV  
14

15 Recommendations of a technical working group for routine and type tests  
16 associated with paper insulated, whether mass impregnated, pre-  
17 impregnated, oil-filled or gas pressure.  
18

19 Electra Article No. 218 – Addendum to Recommendations for Tests of Power  
20 Transmission DC Cables for a Rated Voltage up to 800kV  
21

22 Recommendations of a technical working group as an extension to article  
23 No. 189 and introducing the concept of testing cables under conditions  
24 simulating actual operating conditions such as at high and low ambient  
25 temperatures.



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1 **Request IR-34:**

2  
3 **With respect to the response to IR-3, which referred to page 44, Line 13 of the Application,**  
4 **regarding the instructions to proponents with regards to insulation systems for**  
5 **underground/submarine cable technology, NSPML have responded they are still**  
6 **evaluating the proposals:**

7  
8 **(a) Please supply copies of the requests for proposals?**

9  
10 **(b) Please provide details of the proposals that have been received?**

11  
12 **(c) Please give details of any analysis or evaluation of bids received?**

13  
14 **(d) Please provide a schedule showing the timing of the procurement process?**

15  
16 **Response IR-34:**

17  
18 NSPML developed a comprehensive Request for Proposal (RFP) for the procurement of the  
19 HVDC cable, including an Expression of Interest (EOI) phase where all potential suppliers were  
20 assessed for their financial, technical, safety, environmental, organizational and quality before  
21 being considered to enter the RFP phase. This was a formal and documented review process  
22 completed in 2011-12. Please refer to Attachment 1 for the RFP document and to Confidential  
23 Attachments 2, 3 and 4 for the EOI Evaluation documents.

24  
25 The RFP process included a complete review and approval by both Nalcor and NSPML of the  
26 documents prior to release. Only those who were accepted from the EOI phase evaluation were  
27 invited to bid. The RFP included technical specifications and standards, forms and documents to  
28 be provided verifying the supplier's total offering and information which would be used in the  
29 evaluation process.

Maritime Link Project (NSUARB ML-2013-01)  
NSPML Responses to Cable Consulting International Ltd. Information Requests

**CONFIDENTIAL (Attachment Only)**

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1 The RFP evaluation criteria is provided confidentially, please refer to Confidential Attachment 5.  
2 The evaluation methodology was pre-defined before receiving the proposals, and bidders were  
3 not made aware of the criteria. The criteria are numerically rated by team representatives for  
4 Health, Safety and Security (HSS), quality, technical, commercial and legal. The RFP review and  
5 evaluation process is still underway and is commercially sensitive due to the significant value  
6 involved and the need to protect value for customers.

7  
8 With NS Power fuel and energy procurement processes, the FAM requires RFPs, bid proposals,  
9 analysis and other supporting documentation to be collected and made available for UARB and  
10 intervenor review after completion of the process. NSPML anticipates a similar process in  
11 relation to significant contracts such as the cable supply contract.

12  
13 The cable supplier selection will be subject to an independent engineering review as part of the  
14 terms of the Federal Loan Guarantee, which is due to begin in April.

• Issue RFP to Proponents:	March 19, 2012
• Proponent to acknowledge (by email) receipt of RFP and report any missing parts as per form 0.3.1:	March 22, 2012
• Proponent to confirm its intention to submit proposal, or to withdraw from further participation in the RFP process:	March 27, 2012
• Proponent pre-proposal meetings:	April 5 - 13, 2012
• Latest date for receipt of clarification requests (from Proponents):	May 14, 2012
• Latest date for Company to respond to clarification requests or issue Addenda to the RFP:	May 21, 2012
• Closing time for RFP is 1500 hrs Newfoundland Standard Time on:	July 9, 2012
• Proposal validation period ends on:	June 2013
• Contract Negotiation period:	May-June 2013
• Award recommendation and corporate endorsement period (Emera/Nalcor)	July 2013



REQUEST FOR PROPOSAL

NO. E11-18

Cabot Strait Submarine Cable Design, Supply and Install

Date: March 19, 2012

**PART 1**

**INSTRUCTIONS TO PROPONENTS**

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**SECTION 0.1**

**GENERAL INFORMATION FOR PROPONENTS**

## 0.1 GENERAL INFORMATION FOR PROPONENTS

### 0.1.1 General

ENL Maritime Link Inc. (referred to herein as ENL or Company), an Emera Newfoundland and Labrador Company, invites you to submit a Proposal for the Cabot Strait Submarine Cable Design, Supply and Install, as detailed in this Request for Proposal (RFP).

This RFP is comprised of the following parts:

#### ***Part 1***

General Information and Instructions to Proponents

Section 0.1 General Information for Proponents

Section 0.2 Instructions to Proponents

Section 0.3 Proposal Forms

Section 0.4 Commercial Proposal

Section 0.5 Technical Proposal Questionnaire

Section 0.6 Quality Management Questionnaire

Section 0.7 HSSE Management Questionnaire

#### ***Part 2***

Typical form of Agreement (including Exhibits 1-12)

<b><u>Exhibit</u></b>	<b><u>Description</u></b>
1	Scope of Work
2	Compensation
3	Subcontractors
4	Coordination Procedures
5	Company Supplied Items
6	Company Supplied Document Listing
7	Deliverables List
8	Nova Scotia and Newfoundland & Labrador Benefits
9	Performance Security
10	Declaration of Residency
11	Milestone Schedule
12	Contractor's Facilities

The Proposal Forms in Part 1, Section 0.3 must be completed and submitted as part of the Proposal. These Sections contain all Proposal Forms necessary for Proponent to present its Commercial Proposal. In presenting the information required by those Sections, Proponent shall be responsible for reviewing and understanding all elements of the RFP.

The forms included in Section 0.3 will be used to:

1. Provide a common format for Proponent's response to the Request for Proposal and provision of requested information to facilitate review and consideration,
2. Provide rates and prices for the Work,
3. Provide rates and prices for Changes to the Work, and
4. Where applicable, may form the rate basis of Part 2, Exhibit 2,

The following Questionnaires must be completed and submitted as part of the Proposal:

- The Technical Proposal Questionnaire in Part 1, Section 0.5;
- The Quality Management Questionnaire in Part 1, Section 0.6;
- The HSSE Management Questionnaire in Part 1, Section 0.7.

These Questionnaires will be used to review and consider all aspects of the Proponent's Technical Proposal.

Part 2 represents a typical form of Agreement which may be negotiated between company and Successful Proponent.

Part 2, Exhibit 1 describes the Scope of Work which will form part of the general framework for the Agreement and will assist Proponent in preparing its Proposal.

Part 2, Agreement Articles and Exhibits 1 and 4 describe the quality requirements for the Work which will form part of the general framework for the Agreement and will assist Proponent in preparing its Proposal.

Part 2, Agreement Articles and Exhibits 1 and 4 describe the health, safety, security and environment requirements for the Work which will form part of the general basis for the Agreement which may be negotiated between Company and Successful Proponent and will assist Proponent in preparing its Proposal.

### **0.1.2 ENL Maritime Link Overview**

As part of the historic agreement reached in November 2010 between Emera Incorporated ("Emera") and Nalcor Energy ("Nalcor") regarding power to be generated from the Lower Churchill hydro-electric project, ENL Maritime Link Inc., an Emera Newfoundland & Labrador company and wholly owned indirect subsidiary of Emera, will

build and own an estimated \$1.2 billion transmission project between the island of Newfoundland and Nova Scotia, including approximately two 180-kilometre submarine cables (the “Maritime Link”).

### **0.1.3 Maritime Link Project Overview**

In March 2011 the Maritime Link project was launched. The scope of the project includes the design, development and commissioning of the Maritime Link, including environmental and regulatory approvals with the link expected to be operational in 2017. This RFP was prepared for the Cabot Strait (CAST) crossing component of the Maritime Link project.

### **0.1.4 Summary**

In summary, the Work will include the following, which has been described in further detail in Exhibit 1 – Scope of Work:

- Design, manufacturing supply, delivery and installation of submarine cables, land cables, terminations and all other equipment and spares required to perform the Work;
- Type testing of design (at Company’s discretion);
- Fiber optic communications (optional);
- Final cable route definition;
- Acquisition of all permitting, other than permitting obtained by Company, required to perform the Work;
- Cable landfall design and Installation (at Company’s discretion);
- Cable protection design and installation;
- Pre-leveling and post installation cable free span rectification;
- Cable system testing through manufacturing and installation; and
- Commissioning support.

Proponent may submit a proposal for one or more cable options which are further described in Section 0.4.2. Company may accept one of the options as part of the final Agreement with Successful Proponent. The requirements specified in this RFP reflect those presently known. Specific aspects or components of the Scope of Work may be modified or deleted during the determination of the final Scope to be awarded.

Successful Proponent shall be responsible for all the design and engineering necessary for the execution of the Work including all safety and risk assessments necessary.

Items defined in Exhibit 5 – Company Supplied Items shall not be included in Successful Proponent’s Work.

Successful Proponent will be responsible for seabed leveling and span rectification of the cable route prior to and post installation as per a seabed leveling specification to be Approved by Company and Successful Proponent.

It is the Company's intention to have the Successful Proponent mobilize at the offshore worksite on May 1, 2016 or later. The optimal installation window in this area is from early May to September due to seasonal environmental conditions such as sea states and pack ice. Accordingly, Company has declared a target mobilization date of May 15, 2016 with the possibility of mobilization as early as May 1, 2016.

#### **0.1.5 Company's Needs**

Part 2, Articles and Exhibits outlines the Company's needs and shall form a basis for Successful Proponent's obligations.

#### **0.1.6 General Framework for Agreement**

Any Agreement with the Successful Proponent will be based on the Proposal and incorporate the Articles and Exhibits included in Part 2 herein as appropriate including relevant information from the Successful Proponent's Proposal, as negotiated.

While it is the Company's preference to award one Agreement for the Work, Company reserves the right to reorganize Work into discrete components that may be performed by more than one Successful Proponent, as determined by the Company in its sole discretion.

#### **0.1.7 Proposal Basis**

Proponent's Proposal must address all parts of the Work. However, Company may, in its sole discretion, accept Proposals on a portion of the Work only.

Proponent may submit Proposal for one or more cable options of which are further described in Section 0.4.2 or an acceptable alternative as described in Section 0.4.15.4. Company may accept one of the options or an acceptable alternative that meets the requirements of this RFP as part of the Agreement negotiated with the Successful Proponent.

#### **0.1.8 Agreement Compensation Basis**

Successful Proponent shall perform the Work and assume all obligations required by the Agreement, for the compensation set forth in Part 2, Exhibit 2, as negotiated.

**0.1.9 Contracting Entity**

The Proposal shall be signed by a duly authorized officer of Proponent. If Proponent is a corporation, the Proposal must be signed in its name and on its behalf by a duly authorized signing officer of the corporation.

If a joint venture or consortia Proposal is submitted, its Proposal must be signed by all of the general members of the joint venture or consortia, designating and appointing one of the general members of the joint venture or consortia as a managing sponsor, and authorizing the managing sponsor to sign the Proposal on behalf of Proponent, to act for Proponent in all matters relating to the Proposal.

Proponent shall submit with its Proposal a notarized copy of the joint venture or consortia agreement it has established for the performance of the Work and a corporate organization chart showing all members of the joint venture or consortia. It shall also outline the structure of the joint venture or consortia and the role of each member.

**0.1.10 Subcontract Considerations**

If portions of the Work are proposed to be subcontracted, Company requires that this information be clearly outlined in Proponent's Proposal including a description of the Work being subcontracted. A demonstrated previous working relationship and successful track record between Proponent and the nominated Subcontractor should be highlighted in such description as applicable.

**0.1.11 Base and Alternative Commercial Proposals**

Proponent shall submit a Proposal modeled on the format presented in this RFP. Any alternative Commercial/Technical Proposal should be clearly stated as an alternative and included as Tab 4, Alternative Commercial Proposal to the Commercial Proposal.

**SECTION 0.2**

**INSTRUCTIONS TO PROPONENTS**

## 0.2 INSTRUCTIONS TO PROPONENTS

### 0.2.1 Terminology / Definitions

For all purposes of this RFP:

"Addenda" means any amendments to the RFP issued by Company to all Proponents during the Proposal period, containing additional information or corrections, made by Company, to the RFP already issued.

"Agreement" means any agreement reached between Company and Successful Proponent which may arise from negotiation or acceptance of the Proposal or means the typical form of agreement attached hereto, as the context requires.

"Bulletin" means any release of information by Company that is issued to all Proponents comprising Company's response to a Proponent clarification and / or the release of Addenda to the RFP in accordance with Section 0.2.7.

"Commercial Proposal" means that part of a Proposal that responds to Part 1 Section 0.4 - Commercial Proposal and including all supporting documentation.

"Company Representative" shall mean an individual appointed by the Company to act on its behalf. The appointed representative shall have full authority to act on behalf of the Company and bind the Company.

"Proponent" means a person, corporation, partnership, joint venture, company or other organization which has received the RFP and has submitted a Proposal to Company for the provision of the Work.

"Proposal" means the document submitted by a Proponent in response to the Request for Proposal.

"Request for Proposal" or "RFP" means the documents issued to a Proponent by Company in connection with the preparation of the Proposal, including all Addenda.

"Successful Proponent" means the Proponent whose Proposal, is so awarded and has been selected by Company and with whom the Company will negotiate and enter into the Agreement.

"Technical Proposal" means that part of a Proposal that responds to Part 1 Section 0.5 – Technical Proposal Questionnaire, Section 0.6 – Quality Management Questionnaire, and



Section 0.7 – HSSE Management Questionnaire and including all supporting documentation.

### 0.2.2 Introduction

Company is inviting Proposals from Proponents to design, supply and install the Work as described in Part 2, Agreement.

### 0.2.3 Proposal Process and Schedule

Proponents should base their Proposals on the following dates:

• Issue RFP to Proponents	March 19 <sup>th</sup> , 2012
• Proponent to acknowledge (by email) receipt of RFP and report any missing parts as per form 0.3.1	March 22 <sup>nd</sup> , 2012
• Proponent to confirm its intention to submit a Proposal or to withdraw from further participation in the RFP process	March 27 <sup>th</sup> , 2012
• Proponent pre-proposal meeting (one on one meetings) (location Halifax, NS or St John's NL– details to follow)	April 5 <sup>th</sup> to 13 <sup>th</sup> , 2012
• Latest date for receipt of clarification requests (from Proponents)	May 14 <sup>th</sup> , 2012
• Latest date for Company to respond to clarification requests or issue Addenda to the RFP	May 21 <sup>st</sup> , 2012
• Closing time for RFP is 1500 hrs Newfoundland Standard Time on:	June 11th, 2012
• Anticipated Agreement award date	October 2012

### 0.2.4 Request for Proposal (RFP)

The RFP will be issued in electronic (Portable Document Format (PDF) or native file, as appropriate) format and will include the following.

#### Part 1 - General Information and Instructions to Proponents

Section 0.1	General Information for Proponents
Section 0.2	Instructions to Proponents
Section 0.3	Proposal Forms
Section 0.4	Commercial Proposal
Section 0.5	Technical Proposal Questionnaire
Section 0.6	Quality Management Questionnaire
Section 0.7	HSSE Management Questionnaire

**Parts 2 - Typical form of Agreement (including Exhibits 1-12)**

<b><u>Exhibit</u></b>	<b><u>Description</u></b>
1	Scope of Work
2	Compensation
3	Subcontractors
4	Coordination Procedures
5	Company Supplied Items
6	Company Supplied Document Listing
7	Deliverables List
8	Nova Scotia and Newfoundland & Labrador Benefits
9	Performance Security
10	Declaration of Residency
11	Milestone Schedule
12	Contractor's Facilities

**0.2.5 Modifications to the RFP**

Company may amend any part of the RFP at any time before the latest date stipulated in Section 0.2.3 for Company's issue of responses to clarification requests / Addenda to the RFP. The procedure regarding Proponent's clarifications and Company's responses and the issue of Addenda is addressed in Section 0.2.7.

**0.2.6 Required Acknowledgments/ Notifications**

- 1) After verifying that it has received all of the RFP as listed in Section 0.2.4, Proponent shall acknowledge its receipt, or otherwise advise Company of missing documents, by email as noted in Section 0.2.10 and no later than the date and time specified in Section 0.2.3, unless specifically notified otherwise by Company.
- 2) Proponent shall notify Company of its intention either to submit a Proposal or to withdraw from further participation no later than the due date in Section 0.2.3, unless specifically notified otherwise by Company, by completing and returning Form 0.3.1 – Form of Acknowledgement of this RFP via email as noted in Section 0.2.10. If Proponent decides that it will not submit a Proposal, it shall immediately return the RFP to Company at the address given in Section 0.2.10 and destroy any and all electronic copies in its possession.
- 3) Proponent shall submit clarifications, if any, no later than the date and time specified in Section 0.2.3, unless these are specifically amended by Company, via email as noted in Section 0.2.10.
- 4) If, after having notified Company of its intention to submit a Proposal pursuant to paragraph (2) above, Proponent decides at any time during the RFP process that it will not submit a Proposal, it shall immediately send a written notification to Company in accordance with Section 0.2.10 and immediately return the RFP to Company at the

address given in Section 0.2.10, and / or destroy any and all hard copies, electronic copies and all reproductions or backups.

### **0.2.7 Discrepancies, Omissions and Clarifications**

Proponent is responsible for examining, with appropriate care, the entire RFP and all Addenda, and for informing itself about all conditions and matters that might in any way affect the Price or performance of the Work. Failure to do so will be at Proponent's sole risk.

If Proponent finds any errors or omissions in the RFP, or if Proponent has any doubt regarding the meaning of any requirements or data, Proponent shall promptly seek clarification from Company by submitting written clarification requests. All clarification requests should clearly identify the relevant RFP Section, page number and be in the format provided in Form 0.3.2 of the RFP, and must be submitted to Company in accordance with the instructions set out in Section 0.2.10.

Company will issue clarifications and/or Addenda to all Proponents as required throughout the process and reserves the right to amend the RFP whether at its own initiative or in response to a clarification to a Proponent.

Each clarification and/or Addenda to the RFP released by Company will be issued by way of an RFP Bulletin in the format provided in Form 0.3.3.

No oral clarification shall be requested by or made to any Proponent with respect to this RFP. Every request for a clarification shall be made in writing, addressed and forwarded to Company, in accordance with Section 0.2.10.

### **0.2.8 Confidentiality**

Proponent shall comply fully with the terms of the Confidentiality and Non-Disclosure Form it signed as a precondition to receiving the RFP.

The RFP shall remain the property of Company and shall be returned to Company, if requested.

### **0.2.9 Collusion**

In participating in this RFP, Proponent shall not, directly or indirectly, discuss or communicate the preparation or presentation of their Proposal with any other Proponent or any director, officer, employee, agent or representative thereof. Each Proponent's Proposal shall be submitted without any connection, knowledge, comparison of figures or arrangement with any other Proponent or any director, officer, employee, agent or

representative thereof and each Proponent will be responsible to ensure that its participation in this process is conducted fairly and without collusion.

With the exception of arrangements made in connection with a joint venture or consortia Proposal, Proponents shall not have fixed or adjusted the amount of the Proposal by any agreement or arrangement with any other person or entity. Furthermore, Proponents shall ensure that the amount or approximate amount of its Proposal is not communicated to any other person or entity.

Proponents must adhere to the highest standards of business ethics and, in particular, have established precautions to prevent any of its officers, employees or agents from making, receiving or offering substantial gifts, entertainment, payment, loans or other considerations which may influence individuals in respect of this RFP.

#### **0.2.10 Correspondence**

Proponents shall nominate a duly authorized person, who will act as the point of contact for all communications to/from the Company during the Proposal and evaluation process. The contact telephone and email address for this person should be clearly identified.

Except as set forth herein this RFP, Proponents are not permitted to contact or communicate with any members of the Company group on any matter relating to this RFP or the RFP process generally. Uninvited visits to the Company's office to discuss the RFP are not permitted.

Only those communications from the Company issued through formal correspondence process noted are to be included for consideration by the Proponent.

All contact between Company and Proponent in respect of this RFP must be made in writing only. All communications from Proponent must be by signed letter and submitted via email and be addressed as described below.

All communications relating to the RFP must:

- 1) be in the English language;
- 2) be in writing (clarification requests being in the format set out in Form 0.3.2);
- 3) cite the reference number and title of the RFP as stated in (5) below;
- 4) include a sequential reference number;
- 5) be addressed to:

ENL Maritime Link Inc.  
9 Austin Street St. John's, NL  
Canada, A1B 4C1

Attention: Allan Fraser  
Email: allan.fraser@emera.com  
RFP No: E11-18  
RFP Name: Cabot Strait - Submarine Cable Design, Supply and Install

### 0.2.11 Submittal of Proposal

- 1) The Proposal shall be submitted in the format described below. Full details of the constituent parts of the Proposal are addressed in the RFP. A complete Proposal package must be submitted as set out below.
- 2) Proponent must deliver, via hand delivery or courier, one (1) original and four (4) hard copies of its Proposal not later than the closing time specified in Section 0.2.3. Proponent must ensure that the Proposal arrives before the closing time specified. Proposal should be addressed to Company as follows:

PROPOSAL – DO NOT OPEN UNTIL THE PROPOSAL CLOSING TIME

(NAME OF PROPONENT):  
PROPOSAL FOR:

RFP No: E11-18  
RFP Name: Cabot Strait - Submarine Cable Design, Supply and Install

ENL Maritime Link Inc.  
9 Austin Street  
St. John's, NL A1B 4C1  
Canada

Attn: Allan Fraser

ANY PROPOSAL RECEIVED AFTER THE CLOSING TIME WILL ONLY BE ACCEPTED AT THE SOLE DISCRETION OF COMPANY. INCOMPLETE PROPOSALS MAY BE REJECTED AT THE SOLE DISCRETION OF THE COMPANY.

- 3) Proponent shall present its Proposal in binders consisting of separate parts as referenced below and bound in sealed packages as referenced in this Section 0.2.11:

## **COMMERCIAL PROPOSAL**

### **Tab 1 - Form of Proposal**

0.3.4 Proposal Form Letter and supporting documentation.

### **Tab 2 – Commercial Form of Proposal**

0.3.9 Commercial Form of Proposal – and supporting documentation;  
0.3.10 Commercial Form of Proposal Additional Pricing – and supporting documentation;  
Response to Section 0.4.3 to 0.4.14 questions and supporting documentation.

### **Tab 3 – Additional Commercial Information**

0.3.5 Corporate Data Form and supporting documentation;  
0.3.6 Bank Clearance Letter(s);  
0.3.7 Declaration of Residency and supporting documentation;  
0.3.8 Exceptions and supporting documentation;  
Response to Section 0.4.15, questions and supporting documentation.

### **Tab 4 - Alternative Commercial Proposals**

Information as required.

### **Tab 5 Nova Scotia and Newfoundland and Labrador Benefits**

0.4.16 Nova Scotia and Newfoundland and Labrador Benefits questionnaire and supporting documentation.

## **TECHNICAL PROPOSAL**

### **Tab 1 – Technical**

Technical - in detail per the Technical Proposal Questionnaire provided in Section 0.5 and supporting documentation.

### **Tab 2 – Quality**

Quality Management - in detail per the Quality Management Questionnaire provided in Section 0.6 and supporting documentation.

### **Tab 3 – HSSE**

Health, Safety, Security and Environment (HSSE) Management - in detail per the HSSE Management Questionnaire provided in Section 0.7 and supporting documentation.

**Under no circumstances shall the Technical Proposal contain any commercial information.** Additional binders shall be used as required while maintaining the above organization of the Proposal. Each form, and/or information provided in

support thereof, shall be physically separated from the others in a logical fashion by dividers or similar, with labelled tabs.

- 4) The original and each hard copy shall each be submitted in a separate series of sealed packages, as follows:
  - i. The Commercial Proposal shall be bound in sealed package(s) separate from the Technical Proposal.
  - ii. All packages are to be clearly marked, as appropriate: a) ORIGINAL, COPY 1, COPY 2, etc.; b) COMMERCIAL PROPOSAL or TECHNICAL PROPOSAL; and c) with the individual package number and the total number of packages in the series.
- 5) An electronic copy of the Commercial Proposal (in CD-ROM or USB memory stick format) containing the native documents (Microsoft Word®, Microsoft Excel®, etc.) and a faithful reproduction (PDF) of the Commercial Proposal shall be included in each original and copy of the Commercial Proposal.
- 6) An electronic copy of the Technical Proposal (in CD-ROM or USB memory stick format) containing the native documents (Microsoft Word®, Microsoft Excel®, etc.) and faithful reproduction (PDF) of the Technical Proposal shall be included in each original and hard copy of the Technical Proposal.

#### **0.2.12 Proposal validity period**

Proposal shall be valid for acceptance or negotiation for a period of at least 180 days after the Proposal due date. Proponents agree to accept an award based on the terms of the Proposal in the event that the Company opts to accept the Proposal without negotiation on or before expiration of the 180 day time period.

In the event of Company granting an extension to the closing date, such extension shall be granted to all Proponents through the issuance of a Bulletin in accordance with Section 0.2.7.

#### **0.2.13 Proposal Format**

To facilitate review and consideration of Proposals, the Company invites Proponents to submit proposals to this RFP in accordance with the following:

- 1) Principal Proposal
  - (i) The Proponent's Proposal and all associated attachments and correspondence shall be in the English language;
  - (ii) The Proposal shall be modelled on the format set out in the RFP;

- (iii) The Proposal shall be dated;
- (iv) The Proposal shall show the full legal name and business address of the Proponent and shall be signed by an authorized representative;
- (v) As described in paragraph 0.1.7 of Part 1, Section 0.1, Proponent Proposal must be for the entire Scope of Work as specified in Part 2, Exhibit 1. Company will not accept Proposals on a portion of the Work;
- (vi) Company's preferred currency is Canadian dollars (CAD) however Proponent may quote in their base currency if preferred. Where Proponent's rates and prices have been converted to Canadian from another base currency, Proponent shall provide the value of the base currency and the exchange rates used to convert the rates and prices into Canadian Dollars; and
- (vii) Proposal shall include all information requested in the RFP.

2) Objective/Intent of RFP

- (i) Company invites Proponents to propose what they consider to be the best solution to the Company's needs as described in this RFP. Proponent is encouraged to review the Company's requirements and make recommendations as to how their solution can support these as well as identify opportunities for enhancement and/or improvement to better support Company's needs. Where Proponent feels it would be advantageous to Company to depart in any way from any of the requirements, conditions and provisions set forth in the RFP, it shall present such departures as an alternative to, but together with, the principal Proposal, explaining in full detail the nature and extent of the proposed departure and the consequent impact on the prices, schedules or any other aspect of the Proposal. Such departures, if any, shall be clearly identified and listed in a section of the Proposal devoted explicitly to that purpose. Consideration of any alternative to, or departure from, the Proposal shall be at the sole discretion of Company.

**0.2.14 Proponent to Have Fully Informed Itself**

In submitting a Proposal, Proponent shall be deemed:

- 1) To have carefully examined the RFP and;
- 2) To have made its own interpretations, deductions and conclusions as to the difficulties and cost of performing the Work and to have formulated a Price of all things needed to fulfil its obligations for the satisfactory performance and completion of the Work and to have allowed for same in its Proposal.



**0.2.15 Evaluation of Proposals**

- 1) Company's opening and evaluation of Proposals will be conducted in private.
- 2) The hard copy original of the Proposal, mentioned in Section 0.2.11, will have precedence over all other copies of the Proposal.
- 3) In the case of any discrepancy between words and figures, the words shall prevail.
- 4) Company may use an evaluation process based on any one or more of the following evaluation criteria, in no particular order of importance and without limiting the Company's ability to take into account any other criteria the Company considers relevant.
  - Experience;
  - proven cable system reliability;
  - key staff;
  - safety;
  - delivery;
  - capacity;
  - Nova Scotia and Newfoundland & Labrador benefits;
  - demonstrated ability to meet schedule;
  - demonstrated ability to meet cost requirements;
  - environmental performance;
  - subcontract nomination;
  - execution methodology;
  - resource availability;
  - management organization;
  - quality systems;
  - manufacturing;
  - performance security;
  - contractors spread;
  - engineering;
  - procurement;
  - construction management capability;
  - terms of payment/risk to Company;
  - creditworthiness;
  - workload; and
  - matters of commercial or technical importance to the Work;
- 5) Company, at its sole discretion, may elect to appoint an independent specialist to undertake, on its behalf, an audit or assessment of the Proponent's facilities,

equipment, personnel, resources, processes and procedures and to participate in and contribute to the overall evaluation and selection process.

- 6) Company, at its sole discretion, shall require a copy of all applicable insurance certificates and or policies and shall require such guarantees, performance bonds, bank references or other such commercial documentation from the Successful Proponent as it may deem necessary prior to entering an Agreement or during Agreement term.

#### **0.2.16 Additional General Information**

Notwithstanding anything contained elsewhere in this RFP, including any schedules or attachments hereto, this RFP is subject to the following terms and conditions, all of which the proponent is deemed to accept without qualification by the proponent's submission of a proposal in response to this RFP.

- 1) No Obligations: This is an invitation for proposals and not a tender call. The Company does not intend to and does not assume or owe any contractual or other duties or obligations as a result of the issuance of this RFP, the preparation or submission of a proposal by a proponent, the receipt, opening and consideration of a proposal, the evaluation of proposals, provision of additional information or conduct of presentations, the proponent's participation in any discussions or negotiations, or on any other basis whatsoever arising out of this RFP. Without limiting the generality of the foregoing and for certainty, no Contract A is formed by the submission of a proposal in response to this RFP.
- 2) Discretionary Process: The Company shall have sole and absolute discretion to:
  - (i) modify or amend the RFP, including without limitation the solicitation schedule for the RFP process, the proposal requirements, or any other terms, whether material or not.
  - (ii) suspend or cancel this RFP at any time.
  - (iii) reject any or all proposals submitted in response to this RFP and, in that event, at its option, to call for additional proposals.
  - (iv) Accept or reject the lowest price proposal. If only one proposal is received, it may be selected, accepted or rejected at the Company's discretion.
  - (v) accept any proposal which in any manner, whether substantially or in a non-substantial or minor way, fails to conform to or comply with any of the requirements of this RFP, whether or not such requirements are

expressed in mandatory terms, or reject any proposal for any such non-conformity or non-compliance.

- (vi) enter into post-submission negotiations and discussions with any one or more proponent(s) regarding price, project scope, or any other term of a proponent's submission, and such other terms as the Company may require, and to request additional information and clarification regarding any proposal.
- (vii) enter into simultaneous competitive negotiations with some or all proponents or negotiate with individual proponents.
- (viii) modify the scope of the work or any component thereof subsequent to the date for submission of proposals, whether in the context of negotiations or otherwise.
- (ix) discontinue any negotiations at any time.
- (x) solicit new proposals from firms that did not respond to this RFP and enter into negotiations with any such firm including but not limited to negotiations or proposals for components of the scope, if any, that are not included in the scope of any contract negotiated and executed with any proponent as a result of this RFP.

3) Evaluation and Selection: The Company shall have the sole and absolute discretion to:

- (i) assess any proposal on the basis of any one or more of the selection criteria set forth in this RFP, which criteria are not intended to be exhaustive, and/or any other criterion or factor considered appropriate by the Company.
- (ii) undertake a comparative evaluation of any proposals received and evaluate such proposals based on considerations which, in the sole opinion of the Company, would yield the best value to the Company.
- (iii) select any proposal considered by the Company to be in its best interests or the most satisfactory, including without limitation the lowest or any price proposal.

4) No Company Liability: Without limiting the generality of Section 0.2.16(1) of this RFP and for certainty, by submission of a proposal in response to this RFP, each proponent shall be deemed to accept and agree to the following conditions:

5) Proponents shall be solely and fully responsible for all costs associated with the development, preparation, transmittal, and submission of any proposal or material in response to this RFP, including without limitation the costs of any in-person presentation of proposals at the Company's offices which the Company may

require, and all costs incurred by a proponent during the selection process and any negotiations.

- 6) No proponent shall have any claim against the Company for any compensation of any kind whatsoever as a result of the interpretation of, participation or non-participation, or in providing a response to this RFP process, including without limitation any claim for costs of proposal preparation or participation in negotiations, or for loss of anticipated profits, whether based in contract including fundamental breach, tort, equity, breach of any duty, including, but not limited to breach of the duty of fairness, breach of the obligation to only accept compliant proposals or any other cause of action whatsoever.
- 7) Regulatory Approval: Any contract or contracts entered into as a result of this RFP process shall be subject to regulatory approval.
- 8) Governing Law: This RFP and proposals shall be deemed to have been made in the Province of Nova Scotia and shall be construed and interpreted in accordance with the laws of the Province of Nova Scotia.
- 9) Non-Canadians Performing Short Term Work Assignments: The proponent, is expected to determine the current Canadian government requirements for non-Canadians involved in short term work assignments in Canada and obtain any necessary visas or permits.
- 10) Withholding Taxes and Fees: All those submitting proposals should note that payments to non-Canadian persons or organizations are subject to the terms of the Canadian Income Tax Act and related tax treaties. Unless a waiver is obtained from the Canadian Customs and Revenue Agency, the Company will deduct and remit any applicable withholding taxes, for monies earned by the proponent while the proponent is in Canada.
- 11) No Implied Terms or Conditions. No term or condition shall be implied, based upon any industry or trade practice or custom, any practice or policy of the Company or on any other basis, which is inconsistent or in conflict with the provisions of this RFP.

### **0.2.17 Proposal Form Letter**

Proponent shall present its Proposal Form Letter on its formal letterhead following the same format provided in Form 0.3.4. This letter must be signed by the duly authorized officer or officers of Proponent.

**SECTION 0.3**

**Proposal Forms**

**0.3.1 Form of Acknowledgement**

Date:

From:

ENL Maritime Link Inc. - Maritime Link Project  
9 Austin Drive St. John's,  
NL A1B 4C1  
Canada

Attention: Allan Fraser

**Ref: RFP No: E11-18**  
**Cabot Strait Submarine Cable Design, Supply and Install**

We hereby acknowledge receipt of your Request for Proposal for the subject Work, complete with all documents contained therein.

- Proponent advises that it does not intend to submit a Proposal and that it hereby withdraws from further participation in the RFP process.
- Proponent confirms that it intends to submit a Proposal to Company not later than the due date stipulated in the RFP. The person named below is Proponent's designated single point of contact, to whom any communications in relation to the RFP should be addressed.

(\* Delete as applicable)

Yours truly,

---

(Title)







**0.3.4 Proposal Form Letter**

Date:

From:

ENL Maritime Link Inc.  
9 Austin Street  
St. John's, NL A1B 4C1  
Canada

Attention: Allan Fraser, Senior Manager Procurement

**Ref: RFP No: E11-18**  
**RFP Name: Cabot Strait Submarine Cable Design, Supply and Install**

Dear Mr Fraser:

I/We \_\_\_\_\_ hereby agree that:  
(Official Name of Proponent)

- 1) After carefully examining the Request for Proposal, we do hereby propose to perform the Work as described in the Proposal, at the prices quoted in the Proposal, as applicable, all in accordance with the said documents;
- 2) This Proposal is made without any collusion, comparison of figures or arrangement with any other Proponent;
- 3) We have carefully examined the Request for Proposal, including the following Addenda and Bulletins:

Addendum/Bulletin #	_____	dated	_____
	_____	dated	_____
	_____	dated	_____
	_____	dated	_____
	_____	dated	_____
	_____	dated	_____
	_____	dated	_____

- 4) We hereby propose and offer to negotiate and enter into an Agreement based on Part 2 of the Request for Proposal to complete the Work in accordance with this RFP, within the time specified and for the prices quoted in the Proposal;

- 5) We agree to carry out additional Work when required by Company, as provided for in the Agreement, and specifically those provisions for changes in the scope of work agreed by the Company and the Proponent;
- 6) We agree that the Proposal shall be valid for negotiation or acceptance for a period of at least 180 days after the Proposal due date. We agree to accept an award based on the terms of the Proposal in the event that the Company opts to accept the Proposal without negotiation on or before expiration of the 180 day time period.
- 7) We agree that, upon receipt of notification of acceptance of this Proposal, we shall execute the Agreement;
- 8) If selected as a Successful Proponent and if required by Company, we agree that, upon the execution of an Agreement we shall provide a Guarantee, performance bond and / or an irrevocable and unconditional letter(s) of credit in accordance with the requirements of such Agreement;
- 9) We agree that we shall not be reimbursed for any cost incurred in the preparation of the Proposal or any costs incurred for performing any part of the Work prior to entering into the Agreement; and
- 10) We hereby warrant and represent that we have the right to transfer all information contained within this Proposal and that the transfer of such information does not infringe the proprietary rights of any third party nor does the receipt and use by Company constitute unauthorized disclosure or use of any trade secret, patent or copyright of Proponent or of any third party.

Executed on behalf of \_\_\_\_\_, the Proponent

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name of signatory  
(Please print)

\_\_\_\_\_  
Office Held

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ 2012.

**0.3.5 Corporate Data Form**

**1.0 Details of Proponent**

1.1 

Company Name:	
---------------	--

1.2 Proponent's representative for the purpose of the Package:

Name:	
Title:	
Mailing Address:	
Telephone:	
Email:	

1.3 Head office address:

Mailing Address:	
Telephone:	
Email:	

**2.0 Organization**

2.1 Indicate your type of business organization (Ltd., Private, wholly owned subsidiary, etc.):  

--

2.2 Are you responding to this RFP as a joint venture or partnership? Yes  No   
If yes, please enclose a notarized copy of your joint venture / partnership agreement(s) and details of all joint venture / partnership agreements.

2.3 Please supply Certificate of Incorporation or Registration, if applicable, and attach.

Registration #		Date:	
Place of registration			

2.4 Names of parent, associates and subsidiary companies (indicate whether wholly-owned or identify percent controlled):  


2.5 Please attach a company organization chart and a typical project organization that would manage the Package covered in this RFP

2.6 Please list all labour organizations / affiliated unions with whom you have contracts or working agreements in Nova Scotia and Newfoundland and Labrador.

Organization	Agreement Reference #	Expiration Date

2.7 Declaration of Business Relationship (Company Owner/Management)

All Proponents shall, as a condition of supplying goods or services to Company, make full disclosure of any existing business relationships with any Company employee and/or contractor or immediate relatives. If the Proponent fails to disclose an interest and/or the interest is falsely or insufficiently reported, Company reserves the right to terminate or cancel any agreement of any kind which may have been entered into with the Proponent.

Are you a relative of or do you have a relationship with any Company employee, Company's Other Contractors (or their immediate relatives) that would cause any real or perceived conflicts of interest?

- No
- Yes (please specify): \_\_\_\_\_

2.8 GST / HST Registration No.:

**3.0 Finance / Financial Statement**

3.1 Financial responsibility is assumed by (name of entity):

3.2 Financial Statements:  
Proponent shall provide audited financial statements for the last three (3) years. Proponent shall provide interim un-audited financial statements / information, if the last fiscal year ended is more than six (6) months prior to the submittal date of this Proposal.

3.3 Performance Bonds:  
Can you supply Performance/Payment bonds?      Yes       No

Bonding Company	
Maximum amount	

3.4 If Proponent is a subsidiary, is Proponent parent company willing to provide a Guarantee for the Work, in the form provided in Part 2, Exhibit 9 – Performance Security, if you are the Successful Proponent? Yes  No   
If “No” provide explanation: \_\_\_\_\_

3.5 State the maximum value of Irrevocable Standby Documentary Credit, in the form provided in Part 2, Exhibit 9 – Performance Security, Proponent is able to provide if successful. \_\_\_\_\_

3.6 Please provide credit references for contracts of a similar nature and value, together with any published debt ratings, if applicable:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3.7 As part of submitting the Proposal, Proponent shall indicate whether vendor financing and/or export development bank financing or loan guarantees can be provided as part of completing the Work. Yes  No

If “yes”:

1. For vendor financing, the amount the vendor is prepared to finance \_\_\_\_\_
2. For export development financing, the name of the entity that can provide financing and the amount that may be available  
\_\_\_\_\_ \$ \_\_\_\_\_
3. For loan guarantees, the name of the entity that can provide the guarantee and amount that can be guaranteed  
\_\_\_\_\_ \$ \_\_\_\_\_

3.8 General

Are there any judgements, claims or suits pending or outstanding against your business?  
Yes No (If yes give details in space below)

Are you now, or have you ever been, involved in any bankruptcy or reorganization proceedings?  
Yes No (If yes give details in space below)

Has your business ever cancelled a contract before completion of the work?  
Yes No (If yes give details in space below)

3.9 Please provide your litigation history over the last ten (10) years.

**0.3.6 Bank Clearance Letter Form**

**BANK CLEARANCE LETTER**

(SAMPLE)

(To be written on Proponent's Letterhead)

Our company is presently in the process of submitting a proposal to ENL Maritime Link Inc.

This is your authorization to release directly to ENL Maritime Link Inc., any and such information as it may request pertaining to our status with your bank including, but not limited to, length of association with your bank, types of accounts held and their balances, details of account opening and closing, lines of credit approved and amounts utilized, payment history, any failure to comply with banking covenants as established and any other details of our banking relationships (favourable or otherwise) that they may deem necessary. Any such information made available to ENL Maritime Link Inc. should also be copied to us.

This authorization is to remain in effect for eight (8) months from the date of this letter.

Proponent: \_\_\_\_\_

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Date: \_\_\_\_\_

**0.3.7 Declaration of Residency Form**

**DECLARATION OF RESIDENCY**

We represent that [Click here to enter text.](#) \* **is/is not** a resident of Canada  
(Proponent's name)

for Canadian Income Tax purposes. If at any time our residency status changes we shall inform Company immediately by issuance of a revised 'Declaration of Residency'.

SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

\* Delete as appropriate.



**0.3.8 Exceptions Form**

**EXCEPTIONS**

Proponent: \_\_\_\_\_

<b>Article / Section Reference</b>	<b>Explanation of Why Change is Requested</b>	<b>Requested Wording Change</b>	<b>Extra Cost to Assume Liability or Responsibility without requested wording change</b>

**0.3.9 Commercial Form of Proposal**

**BASE CABLE OPTION 1 & 2**

Proponent \_\_\_\_\_

Part I:

**Cable**  
Capacity 500 MW  
Voltage 200 kv  
AMP 1250 A

Form **0.3.9**  
RFP: **E11-18**  
Date : \_\_\_\_\_  
Currency: \_\_\_\_\_

Exchange rate used to convert prices into Canadian Dollars: \_\_\_\_\_

Item No:	Description	Unit of Measure	Quantity	Base Cable Option - 1 MASS IMPREGNATED CABLE		Base Cable Option - 2 POLYMERIC CABLE	
				Unit Price	Net Price	Unit Price	Net Price
<b>0.4.3</b>	<b>Cable Supply &amp; Installation</b>						
<b>0.4.3.1</b>	<b>Cable Supply</b>						
0.4.3.1.1	Engineering	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.1.2	Materials	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.1.3	Manufacturing	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.1.4	Testing (Post Loadout)	lump sum	1	\$ -	\$ -	\$ -	\$ -
	<b>0.4.3.1 Subtotal</b>				\$ -		\$ -
<b>0.4.3.2</b>	<b>Mobilization</b>						
<b>0.4.3.2.1</b>	<b>Submarine Cable Installation Spread</b>						
0.4.3.2.2	Contractor's Facility Mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.2.3	Transit to worksite including Canadian mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.2.4</b>	<b>Submarine Cable Protection Spread</b>						
0.4.3.2.5	Contractor's Facility Mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.2.6	Transit to worksite including Canadian mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.2.7</b>	<b>Land Cable Installation Spread</b>						
0.4.3.2.8	Contractor's Facility Mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.2.9	Transit to worksite including Canadian mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.2.10</b>	<b>Other Spread (Proponent to Specify)</b>	lump sum					
	<b>0.4.3.2 Subtotal</b>				\$ -		\$ -
<b>0.4.3.3</b>	<b>Installation and Protection</b>						
<b>0.4.3.3.1</b>	<b>Cable Installation</b>						
0.4.3.3.2	Preparatory Work	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.3.3	Installation of Submarine Cables	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.3.4	Installation of Land Cables	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.3.5	Remedial Works	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.3.6</b>	<b>Cable Protection</b>						
0.4.3.3.7	Submarine Cable Protection						
0.4.3.3.8	[Proponent to specify]	Meter		\$ -	\$ -	\$ -	\$ -
0.4.3.3.9	[Proponent to specify]	Meter		\$ -	\$ -	\$ -	\$ -
0.4.3.3.10	[Proponent to specify]	Meter		\$ -	\$ -	\$ -	\$ -
0.4.3.3.11	Land Cable Protection	lump sum	1	\$ -	\$ -	\$ -	\$ -
	<b>0.4.3.3 Subtotal</b>				\$ -		\$ -
<b>0.4.3.4</b>	<b>De-mobilization</b>	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.5</b>	<b>Documentation</b>	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.4</b>	<b>Spares Supply (Detailed Below)</b>						
<b>0.4.4.1</b>	<b>HVDC Cable Spares</b>						
0.4.4.2	Submarine Cable Continuous length on turntable/carousel	per meter	5000	\$ -	\$ -	\$ -	\$ -
0.4.4.3	Land Cable Continuous length on reel	per meter	600	\$ -	\$ -	\$ -	\$ -
0.4.4.4	Terminations	each	2	\$ -	\$ -	\$ -	\$ -
0.4.4.5	Surge Arrestors	each	2	\$ -	\$ -	\$ -	\$ -
0.4.4.6	Submarine Cable Joint Kits	each	4	\$ -	\$ -	\$ -	\$ -
0.4.4.7	Transition Joint Kits	each	2	\$ -	\$ -	\$ -	\$ -
0.4.4.8	Land Cable Joint Kits	each	4	\$ -	\$ -	\$ -	\$ -
0.4.4.9	Cable Armor Anchors & Transition Bay	each	1				
0.4.4.10	DTS Unit	each	1				
0.4.4.11	Cable end Cap kits	each	4				
0.4.4.12	Submarine Cable Pulling eye Kits	each	4	\$ -	\$ -	\$ -	\$ -
	<b>0.4.4 Subtotal</b>				\$ -		\$ -
<b>TOTAL</b>					\$ -		\$ -

**COMMERCIAL FORM OF PROPOSAL - ALTERNATIVE CABLE OPTION 3 & 4**

Proponent \_\_\_\_\_

Part I:

**Cable**  
Capacity 500 MW  
Voltage 250 kv  
AMP 1000 A

Form **0.3.9**  
RFP: **E11-18**

Date : \_\_\_\_\_  
Currency \_\_\_\_\_

Exchange rate used to convert prices into Canadian Dollars:

Item No:	Description	Unit of Measure	Quantity	Alternative Cable Option - 3		Alternative Cable Option - 4	
				Unit Price	Net Price	Unit Price	Net Price
<b>0.4.3</b>	<b>Cable Supply &amp; Installation</b>						
<b>0.4.3.1</b>	<b>Cable Supply</b>						
0.4.3.1.1	Engineering	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.1.2	Materials	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.1.3	Manufacturing	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.1.4	Testing (Post Loadout)	lump sum	1	\$ -	\$ -	\$ -	\$ -
	<b>0.4.3.1 Subtotal</b>				\$ -		\$ -
<b>0.4.3.2</b>	<b>Mobilization</b>						
<b>0.4.3.2.1</b>	<b>Submarine Cable Installation Spread</b>						
0.4.3.2.2	Contractor's Facility Mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.2.3	Transit to worksite including Canadian mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.2.4</b>	<b>Submarine Cable Protection Spread</b>						
0.4.3.2.5	Contractor's Facility Mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.2.6	Transit to worksite including Canadian mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.2.7</b>	<b>Land Cable Installation Spread</b>						
0.4.3.2.8	Contractor's Facility Mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.2.9	Transit to worksite including Canadian mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.2.10</b>	<b>Other Spread (Proponent to Specify)</b>	lump sum					
	<b>0.4.3.2 Subtotal</b>				\$ -		\$ -
<b>0.4.3.3</b>	<b>Installation and Protection</b>						
<b>0.4.3.3.1</b>	<b>Cable Installation</b>						
0.4.3.3.2	Preparatory Work	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.3.3	Installation of Submarine Cables	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.3.4	Installation of Land Cables	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.3.5	Remedial Works	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.3.6</b>	<b>Cable Protection</b>						
0.4.3.3.7	Submarine Cable Protection						
0.4.3.3.8	[Proponent to specify]	Meter		\$ -	\$ -	\$ -	\$ -
0.4.3.3.9	[Proponent to specify]	Meter		\$ -	\$ -	\$ -	\$ -
0.4.3.3.10	[Proponent to specify]	Meter		\$ -	\$ -	\$ -	\$ -
0.4.3.3.11	Land Cable Protection	lump sum	1	\$ -	\$ -	\$ -	\$ -
	<b>0.4.3.3 Subtotal</b>				\$ -		\$ -
<b>0.4.3.4</b>	<b>De-mobilization</b>	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.5</b>	<b>Documentation</b>	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.4</b>	<b>Spares Supply (Detailed Below)</b>						
<b>0.4.4.1</b>	<b>HVDC Cable Spares</b>						
0.4.4.2	Submarine Cable Continuous length on turntable/carousel	per meter	5000	\$ -	\$ -	\$ -	\$ -
0.4.4.3	Land Cable Continuous length on reel	per meter	600	\$ -	\$ -	\$ -	\$ -
0.4.4.4	Terminations	each	2	\$ -	\$ -	\$ -	\$ -
0.4.4.5	Surge Arrestors	each	2	\$ -	\$ -	\$ -	\$ -
0.4.4.6	Submarine Cable Joint Kits	each	4	\$ -	\$ -	\$ -	\$ -
0.4.4.7	Transition Joint Kits	each	2	\$ -	\$ -	\$ -	\$ -
0.4.4.8	Land Cable Joint Kits	each	4	\$ -	\$ -	\$ -	\$ -
0.4.4.9	Cable Armor Anchors & Transition Bay	each	1				
0.4.4.10	DTS Unit	each	1				
0.4.4.11	Cable end Cap kits	each	4				
0.4.4.12	Submarine Cable Pulling eye Kits	each	4	\$ -	\$ -	\$ -	\$ -
	<b>0.4.4 Subtotal</b>				\$ -		\$ -
	<b>TOTAL</b>				\$ -		\$ -

COMMERCIAL FORM OF PROPOSAL - ALTERNATIVE CABLE OPTION 5 & 6

Proponent \_\_\_\_\_

Part I:

**Cable**  
Capacity 625 MW  
Voltage 250 kv  
AMP 1250 A

Form **0.3.9**  
RFP: **E11-18**

Date: \_\_\_\_\_  
Currency: \_\_\_\_\_

Exchange rate used to convert prices into Canadian Dollars:

Item No:	Description	Unit of Measure	Quantity	Alternative Cable Option - 5		Alternative Cable Option - 6	
				Unit Price	Net Price	Unit Price	Net Price
<b>0.4.3</b>	<b>Cable Supply &amp; Installation</b>						
<b>0.4.3.1</b>	<b>Cable Supply</b>						
0.4.3.1.1	Engineering	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.1.2	Materials	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.1.3	Manufacturing	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.1.4	Testing (Post Loadout)	lump sum	1	\$ -	\$ -	\$ -	\$ -
	<b>0.4.3.1 Subtotal</b>				\$ -		\$ -
<b>0.4.3.2</b>	<b>Mobilization</b>						
<b>0.4.3.2.1</b>	<b>Submarine Cable Installation Spread</b>						
0.4.3.2.2	Contractor's Facility Mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.2.3	Transit to worksite including Canadian mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.2.4</b>	<b>Submarine Cable Protection Spread</b>						
0.4.3.2.5	Contractor's Facility Mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.2.6	Transit to worksite including Canadian mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.2.7</b>	<b>Land Cable Installation Spread</b>						
0.4.3.2.8	Contractor's Facility Mobilization	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.2.9	Transit to worksite including	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.2.10</b>	<b>Other Spread (Proponent to Specify)</b>	lump sum					
	<b>0.4.3.2 Subtotal</b>				\$ -		\$ -
<b>0.4.3.3</b>	<b>Installation and Protection</b>						
<b>0.4.3.3.1</b>	<b>Cable Installation</b>						
0.4.3.3.2	Preparatory Work	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.3.3	Installation of Submarine Cables	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.3.4	Installation of Land Cables	lump sum	1	\$ -	\$ -	\$ -	\$ -
0.4.3.3.5	Remedial Works	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.3.6</b>	<b>Cable Protection</b>						
0.4.3.3.7	Submarine Cable Protection						
0.4.3.3.8	[Proponent to specify]	Meter		\$ -	\$ -	\$ -	\$ -
0.4.3.3.9	[Proponent to specify]	Meter		\$ -	\$ -	\$ -	\$ -
0.4.3.3.10	[Proponent to specify]	Meter		\$ -	\$ -	\$ -	\$ -
0.4.3.3.11	Land Cable Protection	lump sum	1	\$ -	\$ -	\$ -	\$ -
	<b>0.4.3.3 Subtotal</b>				\$ -		\$ -
<b>0.4.3.4</b>	<b>De-mobilization</b>	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.3.5</b>	<b>Documentation</b>	lump sum	1	\$ -	\$ -	\$ -	\$ -
<b>0.4.4</b>	<b>Spares Supply (Detailed Below)</b>						
<b>0.4.4.1</b>	<b>HVDC Cable Spares</b>						
0.4.4.2	Submarine Cable Continuous length on	per meter	5000	\$ -	\$ -	\$ -	\$ -
0.4.4.3	Land Cable Continuous length on reel	per meter	600	\$ -	\$ -	\$ -	\$ -
0.4.4.4	Terminations	each	2	\$ -	\$ -	\$ -	\$ -
0.4.4.5	Surge Arrestors	each	2	\$ -	\$ -	\$ -	\$ -
0.4.4.6	Submarine Cable Joint Kits	each	4	\$ -	\$ -	\$ -	\$ -
0.4.4.7	Transition Joint Kits	each	2	\$ -	\$ -	\$ -	\$ -
0.4.4.8	Land Cable Joint Kits	each	4	\$ -	\$ -	\$ -	\$ -
0.4.4.9	Cable Armor Anchors & Transition Bay	each	1				
0.4.4.10	DTS Unit	each	1				
0.4.4.11	Cable end Cap kits	each	4				
0.4.4.12	Submarine Cable Pulling eye Kits	each	4	\$ -	\$ -	\$ -	\$ -
	<b>0.4.4 Subtotal</b>				\$ -		\$ -
<b>TOTAL</b>					\$ -		\$ -

**0.3.10 Commercial Form of Proposal – Additional Rates**  
**BASE CABLE OPTION 1 & 2**

Proponent \_\_\_\_\_

Part I: \_\_\_\_\_  
Form **3.10**  
RFP: **E11-18**

**Cable**  
Capacity 500 MW  
Voltage 200 kv  
AMP 1250 A

Date : \_\_\_\_\_  
Currency: \_\_\_\_\_  
Exchange rate used to convert prices into \_\_\_\_\_  
Canadian Dollars:

Item No:	Description	Unit of Measure	Base Cable Option - 1 MASS IMPREGNATED CABLE UNIT RATES	Base Cable Option - 2 POLYMERIC CABLE UNIT RATES
<b>3.0 Standby and Weather Delay</b>				
3.1	Cable Installation Spread Standby Dayrate	day	\$ -	\$ -
3.2	Cable Protection Spread Standby Dayrate	day	\$ -	\$ -
3.3	Land Cable Installation Spread	day	\$ -	\$ -
3.4	[Other Proponent to Specify]	day	\$ -	\$ -
<b>5.0 Changes</b>				
<b>5.1 Personnel</b>				
<b>At Contractor's Offices</b>				
5.1.1	Junior Engineer	hour	\$ -	\$ -
5.1.2	Intermediate Engineer	hour	\$ -	\$ -
5.1.3	Senior Engineer	hour	\$ -	\$ -
5.1.4	(Proponent to insert additional rates as applicable)	hour	\$ -	\$ -
<b>Worksite</b>				
5.1.5	Site Representative	day	\$ -	\$ -
5.1.6	Jointing Technician	day	\$ -	\$ -
5.1.7	Commissioning Support Technician	day	\$ -	\$ -
5.1.8	(Proponent to insert additional rates as applicable)	day	\$ -	\$ -
<b>5.2 Materials</b>				
5.2.1	Changes to Cable Cross Sectional Area per 100mm2	meter	\$ -	\$ -
5.2.2	Submarine Cable	meter	\$ -	\$ -
5.2.3	Land Cable	meter	\$ -	\$ -
5.2.4	Terminations	meter	\$ -	\$ -
5.2.5	Submarine Cable Joint Kits	each	\$ -	\$ -
5.2.6	Transition Joint Kits	each	\$ -	\$ -
5.2.7	Land Cable Joint Kits	each	\$ -	\$ -
5.2.8	Cable Armour Anchors	each	\$ -	\$ -
5.2.9	DTS Units	each	\$ -	\$ -
5.2.10	Landfall conduit land interface	each	\$ -	\$ -
5.2.11	Landfall conduit submarine interface	each	\$ -	\$ -
<b>5.3 Equipment</b>				
5.3.1	[Proponent to Specify]		\$ -	\$ -
5.3.2	[Proponent to Specify]		\$ -	\$ -
<b>5.5 Additional Services</b>				
5.5.1	Contractor Spread Private Cabin	day	\$ -	\$ -
5.5.2	Contractor Spread Office	day	\$ -	\$ -
5.5.3	Worksite Office	day	\$ -	\$ -
5.5.4	Cable and Spares Storage, Handling & transport	lump sum	\$ -	\$ -
5.5.5	Cable Jointing	lump sum	\$ -	\$ -
5.5.6	Type Test	each	\$ -	\$ -
5.5.7	Flexural Rigidity Test	each	\$ -	\$ -
5.5.8	Torsional Rigidity Test	each	\$ -	\$ -
5.5.9	Cable conduit pull-in tensile loading test	each	\$ -	\$ -
5.5.10	Cyclic fatigue test	each	\$ -	\$ -
5.5.11	DTS/Fiber optic system test	each	\$ -	\$ -
5.5.12	External sheath abrasion resistance test	each	\$ -	\$ -

<b>6.0</b>	<b>Project Insurance -Optional</b>			
6.1	Construction All Risk Insurance (CAR) (20.1 a)	lump sum	\$ -	\$ -
6.2	Comprehensive General Liability (20.1 b)	lump sum	\$ -	\$ -
<b>9.0</b>	<b>Landfall -Optional</b>			
9.1	Landfall Engineering Hourly Rates			
9.1.1	Junior Engineer	hour	\$ -	\$ -
9.1.2	Intermediate Engineer	hour	\$ -	\$ -
9.1.3	Senior Engineer	hour	\$ -	\$ -
9.1.4	Engineering Manager / Project Manager	hour	\$ -	\$ -
9.1.5	Drafting / Autocad	hour	\$ -	\$ -
9.1.6	GIS Technician	hour	\$ -	\$ -
9.1.7	[Others - Proponent to Specify]	hour	\$ -	\$ -
9.2	Markup for Subcontracted Engineering Services	Percentage (%)	% -	% -
9.3	Fee for the management of landfall subcontractor	lump sum	\$ -	\$ -
<b>10.0</b>	<b>Fibre Optic Cable System &amp; Installation - Optional</b>			
10.1	Fibre Optic Cable Supply	lump sum	\$ -	\$ -
10.2	Fibre Optic Cable Installation & Protection			
10.2.1	Mobilization	lump sum	\$ -	\$ -
10.2.2	Installation & Protection	lump sum	\$ -	\$ -
10.2.3	Demobilization	lump sum	\$ -	\$ -
10.2.4	Documentation	lump sum	\$ -	\$ -
	<b>10.2 Subtotal</b>		\$ -	\$ -
10.3	Spares Supply			
10.3.1	Proponent to provide suggested spares list	lump sum	\$ -	\$ -

**ADDITIONAL RATES - ALTERNATIVE CABLE OPTION 3 & 4**

Proponent \_\_\_\_\_

Part I: \_\_\_\_\_  
Form 3.10

**Cable**  
Capacity 500 MW  
Voltage 250 kv  
AMP 1000 A

RFP: **E11-18**

Date : \_\_\_\_\_

Currency: \_\_\_\_\_

Exchange rate used to convert prices into Canadian Dollars: \_\_\_\_\_

Item No:	Description	Unit of Measure	Base Cable Option - 3 MASS IMPREGNATED CABLE UNIT RATES	Base Cable Option - 4 POLYMERIC CABLE UNIT RATES
<b>3.0 Standby and Weather Delay</b>				
3.1	Cable Installation Spread Standby Dayrate	day	\$ -	\$ -
3.2	Cable Protection Spread Standby Dayrate	day	\$ -	\$ -
3.3	Land Cable Installation Spread	day	\$ -	\$ -
3.4	[Other Proponent to Specify]	day	\$ -	\$ -
<b>5.0 Changes</b>				
<b>5.1 Personnel</b>				
<b>At Contractor's Offices</b>				
5.1.1	Junior Engineer	hour	\$ -	\$ -
5.1.2	Intermediate Engineer	hour	\$ -	\$ -
5.1.3	Senior Engineer	hour	\$ -	\$ -
5.1.4	(Proponent to insert additional rates as applicable)	hour	\$ -	\$ -
<b>Worksite</b>				
5.1.5	Site Representative	day	\$ -	\$ -
5.1.6	Joining Technician	day	\$ -	\$ -
5.1.7	Commissioning Support Technician	day	\$ -	\$ -
5.1.8	(Proponent to insert additional rates as applicable)	day	\$ -	\$ -
<b>5.2 Materials</b>				
5.2.1	Changes to Cable Cross Sectional Area per 100mm <sup>2</sup>	meter	\$ -	\$ -
5.2.2	Submarine Cable	meter	\$ -	\$ -
5.2.3	Land Cable	meter	\$ -	\$ -
5.2.4	Terminations	meter	\$ -	\$ -
5.2.5	Submarine Cable Joint Kits	each	\$ -	\$ -
5.2.6	Transition Joint Kits	each	\$ -	\$ -
5.2.7	Land Cable Joint Kits	each	\$ -	\$ -
5.2.8	Cable Armour Anchors	each	\$ -	\$ -
5.2.9	DTS Units	each	\$ -	\$ -
5.2.10	Landfall conduit land interface	each	\$ -	\$ -
5.2.11	Landfall conduit submarine interface	each	\$ -	\$ -
<b>5.3 Equipment</b>				
5.3.1	[Proponent to Specify]		\$ -	\$ -
5.3.2	[Proponent to Specify]		\$ -	\$ -
<b>5.5 Additional Services</b>				
5.5.1	Contractor Spread Private Cabin	day	\$ -	\$ -
5.5.2	Contractor Spread Office	day	\$ -	\$ -
5.5.3	Worksite Office	day	\$ -	\$ -
5.5.4	Cable and Spares Storage, Handling & transport	lump sum	\$ -	\$ -
5.5.5	Cable Joining	lump sum	\$ -	\$ -
5.5.6	Type Test	each	\$ -	\$ -
5.5.7	Flexural Rigidity Test	each	\$ -	\$ -
5.5.8	Torsional Rigidity Test	each	\$ -	\$ -
5.5.9	Cable conduit pull-in tensile loading test	each	\$ -	\$ -
5.5.10	Cyclic fatigue test	each	\$ -	\$ -
5.5.11	DTS/Fiber optic system test	each	\$ -	\$ -
5.5.12	External sheath abrasion resistance test	each	\$ -	\$ -

<b>6.0</b>	<b>Project Insurance -Optional</b>			
6.1	Construction All Risk Insurance (CAR) (20.1 a)	lump sum	\$ -	\$ -
6.2	Comprehensive General Liability (20.1 b)	lump sum	\$ -	\$ -
<b>9.0</b>	<b>Landfall -Optional</b>			
9.1	Landfall Engineering Hourly Rates			
9.1.1	Junior Engineer	hour	\$ -	\$ -
9.1.2	Intermediate Engineer	hour	\$ -	\$ -
9.1.3	Senior Engineer	hour	\$ -	\$ -
9.1.4	Engineering Manager / Project Manager	hour	\$ -	\$ -
9.1.5	Drafting / Autocad	hour	\$ -	\$ -
9.1.6	GIS Technician	hour	\$ -	\$ -
9.1.7	[Others - Proponent to Specify]	hour	\$ -	\$ -
9.2	Markup for Subcontracted Engineering Services	Percentage (%)	% -	% -
9.3	Fee for the management of landfall subcontractor	lump sum	\$ -	\$ -
<b>10.0</b>	<b>Fibre Optic Cable System &amp; Installation - Optional</b>			
10.1	Fibre Optic Cable Supply	lump sum	\$ -	\$ -
10.2	Fibre Optic Cable Installation & Protection			
10.2.1	Mobilization	lump sum	\$ -	\$ -
10.2.2	Installation & Protection	lump sum	\$ -	\$ -
10.2.3	Demobilization	lump sum	\$ -	\$ -
10.2.4	Documentation	lump sum	\$ -	\$ -
	<b>10.2 Subtotal</b>		\$ -	\$ -
10.3	Spares Supply			
10.3.1	Proponent to provide suggested spares list	lump sum	\$ -	\$ -



**ADDITIONAL RATES - ALTERNATIVE CABLE OPTION 5 & 6**

Proponent \_\_\_\_\_

Part I: \_\_\_\_\_  
Form 3.10

**Cable**

RFP: **E11-18**

Capacity **625 MW**

Date : \_\_\_\_\_

Voltage **250 kv**

Currency: \_\_\_\_\_

AMP **1250 A**

Exchange rate used to convert prices into Canadian Dollars: \_\_\_\_\_

Item No:	Description	Unit of Measure	Base Cable Option - 5 MASS IMPREGNATED CABLE UNIT RATES	Base Cable Option - 6 POLYMERIC CABLE UNIT RATES
<b>3.0 Standby and Weather Delay</b>				
3.1	Cable Installation Spread Standby Dayrate	day	\$ -	\$ -
3.2	Cable Protection Spread Standby Dayrate	day	\$ -	\$ -
3.3	Land Cable Installation Spread	day	\$ -	\$ -
3.4	[Other Proponent to Specify]	day	\$ -	\$ -
<b>5.0 Changes</b>				
<b>5.1 Personnel</b>				
<b>At Contractor's Offices</b>				
5.1.1	Junior Engineer	hour	\$ -	\$ -
5.1.2	Intermediate Engineer	hour	\$ -	\$ -
5.1.3	Senior Engineer	hour	\$ -	\$ -
5.1.4	(Proponent to insert additional rates as applicable)	hour	\$ -	\$ -
<b>Worksite</b>				
5.1.5	Site Representative	day	\$ -	\$ -
5.1.6	Joining Technician	day	\$ -	\$ -
5.1.7	Commissioning Support Technician	day	\$ -	\$ -
5.1.8	(Proponent to insert additional rates as applicable)	day	\$ -	\$ -
<b>5.2 Materials</b>				
5.2.1	Changes to Cable Cross Sectional Area per 100mm <sup>2</sup>	meter	\$ -	\$ -
5.2.2	Submarine Cable	meter	\$ -	\$ -
5.2.3	Land Cable	meter	\$ -	\$ -
5.2.4	Terminations	meter	\$ -	\$ -
5.2.5	Submarine Cable Joint Kits	each	\$ -	\$ -
5.2.6	Transition Joint Kits	each	\$ -	\$ -
5.2.7	Land Cable Joint Kits	each	\$ -	\$ -
5.2.8	Cable Armour Anchors	each	\$ -	\$ -
5.2.9	DTS Units	each	\$ -	\$ -
5.2.10	Landfall conduit land interface	each	\$ -	\$ -
5.2.11	Landfall conduit submarine interface	each	\$ -	\$ -
<b>5.3 Equipment</b>				
5.3.1	[Proponent to Specify]		\$ -	\$ -
5.3.2	[Proponent to Specify]		\$ -	\$ -
<b>5.5 Additional Services</b>				
5.5.1	Contractor Spread Private Cabin	day	\$ -	\$ -
5.5.2	Contractor Spread Office	day	\$ -	\$ -
5.5.3	Worksite Office	day	\$ -	\$ -
5.5.4	Cable and Spares Storage, Handling & transport	lump sum	\$ -	\$ -
5.5.5	Cable Joining	lump sum	\$ -	\$ -
5.5.6	Type Test	each	\$ -	\$ -
5.5.7	Flexural Rigidity Test	each	\$ -	\$ -
5.5.8	Torsional Rigidity Test	each	\$ -	\$ -
5.5.9	Cable conduit pull-in tensile loading test	each	\$ -	\$ -
5.5.10	Cyclic fatigue test	each	\$ -	\$ -
5.5.11	DTS/Fiber optic system test	each	\$ -	\$ -
5.5.12	External sheath abrasion resistance test	each	\$ -	\$ -

<b>6.0</b>	<b>Project Insurance -Optional</b>			
6.1	Construction All Risk Insurance (CAR) (20.1 a)	lump sum	\$ -	\$ -
6.2	Comprehensive General Liability (20.1 b)	lump sum	\$ -	\$ -
<b>9.0</b>	<b>Landfall -Optional</b>			
9.1	Landfall Engineering Hourly Rates			
9.1.1	Junior Engineer	hour	\$ -	\$ -
9.1.2	Intermediate Engineer	hour	\$ -	\$ -
9.1.3	Senior Engineer	hour	\$ -	\$ -
9.1.4	Engineering Manager / Project Manager	hour	\$ -	\$ -
9.1.5	Drafting / Autocad	hour	\$ -	\$ -
9.1.6	GIS Technician	hour	\$ -	\$ -
9.1.7	[Others - Proponent to Specify]	hour	\$ -	\$ -
9.2	Markup for Subcontracted Engineering Services	Percentage (%)	% -	% -
9.3	Fee for the management of landfall subcontractor	lump sum	\$ -	\$ -
<b>10.0</b>	<b>Fibre Optic Cable System &amp; Installation - Optional</b>			
10.1	Fibre Optic Cable Supply	lump sum	\$ -	\$ -
10.2	Fibre Optic Cable Installation & Protection			
10.2.1	Mobilization	lump sum	\$ -	\$ -
10.2.2	Installation & Protection	lump sum	\$ -	\$ -
10.2.3	Demobilization	lump sum	\$ -	\$ -
10.2.4	Documentation	lump sum	\$ -	\$ -
	<b>10.2 Subtotal</b>		\$ -	\$ -
10.3	Spares Supply			
10.3.1	Proponent to provide suggested spares list	lump sum	\$ -	\$ -

**SECTION 0.4**

**COMMERCIAL PROPOSAL**

## 0.4 COMMERCIAL PROPOSAL

### 0.4.1 Introduction

Section 0.3 contains all Proposal Forms necessary for Proponent to present its Commercial Proposal. In presenting the information required by this section, Proponent shall be responsible for reading and understanding all elements of the RFP.

The forms included in section 0.3 will be used to:

1. Evaluate the monetary value of the services;
2. Provide rates for Changes and optional items;
3. Where applicable, form the rate basis of Exhibit 2, Compensation, of the Agreement;
4. Evaluate the Proponents financial ability to complete the Work;

Proponent must follow the format of the forms as presented in the Proposal Forms.

Information presented in these Proposal Forms, as negotiated, may be extracted for inclusion into the final Agreement.

If necessary, Proponent can provide additional information as an attachment to the Proposal Form.

### 0.4.2 General

Company is requesting all inclusive pricing for the design, supply and installation of the HVDC cable to meet the requirements set forth in Part 2, Exhibit 1 – Scope of Work and is requesting rates for spares, options and for Changes to the Work.

Proponent shall submit Proposal for one or more base cable options and in addition Proponent may submit Proposal for one or more alternative cable options. Company may, in its sole discretion, accept one of the options or a suitable alternative option as part of an Agreement with the Successful Proponent. The base and alternative cable options identified are as follows:

Number	Cable Option	Cable Type	Material	Capacity	Voltage	Amp
1	Base	Mass Impregnated	Proponent choice of either a copper or aluminum conductor	500 MW	200kV	1250A
2		Polymeric				
3	Alternative	Mass Impregnated		500 MW	250kV	1000A
4		Polymeric				
5		Mass Impregnated				
6		Polymeric				

The section numbers below correspond with the relevant item numbers in Proposal form 0.3.9 – Commercial Forms of Proposal (Form 0.3.9) and Proposal form 0.3.10 – Commercial Forms of Proposal (Form 0.3.10) which further correspond with the section numbering in Part 2, Exhibit 2 – Compensation. Successful Proponent's rates, as negotiated, provided in Forms 0.3.9 and 0.3.10 will be incorporated into Part 2, Exhibit 2 – Compensation of the Agreement. Proponent should complete this section understanding the requirements in Part 2, Exhibit 2 and all other requirements in Part 2 prior to preparing its Proposal.

The rates and amounts provided in Form 0.3.9 shall be included in the Price for the Work proposed.

The rates and amounts provided in Form 0.3.10 shall be used for Weather Delay, Changes, commissioning support and options.

### **0.4.3 Cable Supply and Installation**

Proponent shall provide the below specified amounts in Form 0.3.9 which will form the total lump sum Price for the Work proposed. For the purposes of evaluation some of the below listed items have been divided into sub-items in Form 0.3.9. Proposal shall be submitted with the level of detail provided in Form 0.3.9.

Proponents should note that the feasibility study for landfall is ongoing and as a result the landfall conceptual design has not been completed. Upon completion of the conceptual design Proponents will be asked to verify the proposed cable design.

It is understood that the Proponent may utilize one or more submarine cable protection methods, therefore Proponent shall provide unit pricing for each protection method along with the associated quantity. This information will be used to arrive at a lump sum Price for the Work.

#### **0.4.3 Cable Supply and Installation**

0.4.3.1 Cable Supply

0.4.3.2 Mobilization

0.4.3.3 Installation & Protection

0.4.3.4 Demobilization

0.4.3.5 Documentation

### **0.4.4 Spares Supply**

Proponent shall provide rates for the spares listed in Form 0.3.9. Company reserves the right to change the quantities of spares prior to award. Upon finalization of quantities, the total price of spares will be included in the lump sum Price for the Work in Form 0.3.9.

The rates provided for spares supply shall also be included in Exhibit 2, Section 2.0.

#### **0.4.5 Customs / Duty**

Proponent shall provide, as an attachment to Form 0.3.9, the Canadian import tariff rates (customs/duty), as applicable, applied to the Price, or components thereof, provided in 2.1 and 2.2.

#### **0.4.6 Standby and Weather Delay**

Proponent shall provide the Standby Dayrate(s) for Contractor's Spreads listed under 3.0 in Form 0.3.10.

#### **0.4.7 Milestone Payments**

Proponent shall provide, as an attachment to Form 0.3.9, proposed Milestone Payments, for the lump sum prices proposed in Form 0.3.9. Each Milestone shall include a detailed set of criteria which Proponent proposes to trigger payment.

When providing Milestone payment amounts the Company recommends that Milestone payment amounts be aligned with activities in the proposed schedule and reflect the level of effort up to and including the individual Milestone. The Company will not accept advance payment or front-end loaded Milestone payments for the Work. See also section 0.5.7.

#### **0.4.8 Changes**

Rates provided in this section will be used as the basis for Changes to the Agreement. If Proponent identifies additional rates or amounts that should be included in this section it should insert them into the relevant location in the forms provided.

##### **0.4.8.1 Personnel**

Proponent shall provide the rates for items listed under 5.1 in Form 0.3.10.

As an attachment to Form 0.3.10, Proponent shall also provide a copy of its current rate schedule for after sales call-out services as well as the discount that will be provided to the rates listed therein. The attachment should also provide the lead time required for the call-out of submarine cable and land cable jointing crews. The discount and lead times provided may be included in a separate service agreement with the Successful Proponent.

##### **0.4.8.2 Materials**

Proponent shall provide the rates for items listed under 5.2 in Form 0.3.10.

##### **0.4.8.3 Equipment**

Proponent shall provide the rates for items listed under 5.3 in Form 0.3.10.

#### **0.4.8.4 Third Party Services**

Proponent shall confirm the acceptance of the terms of Exhibit 2, section 5.4.

#### **0.4.8.5 Additional Services**

Proponent shall provide the rates for items listed under 5.5 in Form 0.3.10.

#### **0.4.9 Project Insurance**

Company may, at its sole discretion, have the Successful Proponent provide Project Insurance.

Proponents shall provide a proposal including proposed policy details as to the scope of the Proponent's proposed Project insurance assuming:

- a) Insurance shall be effective from the time cables leave manufacturing facility and approved by Marine Warranty Surveyor through to issuance of final Completion Certificate; and
- b) Insurance shall be effective from the time the cables are loaded onto the Contractor's Spread and approved by Marine Warranty Surveyor through to issuance of final Completion Certificate by Company.

Company reserves the right to amend or alter the requirement for the Proponent to provide Project Insurance, including the contents of Agreement Article 20, and reserves the right for the Company to place some or all of the policies as it deems necessary after review of the Proponent's proposal.

Proponent shall provide proposed policy details as an attachment to Form 0.3.10 and the lump sum amounts for item numbers 6.1 and 6.2 in Form 0.3.10.

#### **0.4.10 Liquidated Damages**

Proponent shall confirm the acceptance of the terms of Exhibit 2, section 7.0.

#### **0.4.11 Mobilization Call-Out Window**

Company has declared a Target Mobilization date of 15 May 2016, with the possibility of Mobilization as early as 01 May 2016. This relates to potential seasonal environmental issues such as weather & sea state. Contractor shall propose commercial terms for a collapsing Mobilization call-out window which addresses this concern, as an attachment to Form 0.3.10. The call-out window shall have an early date of 01 May 2016 and a late date of 30 May 2016. The agreed terms will be incorporated into the Agreement.

#### **0.4.12 Landfall**

It is the Company's preference to have the Successful Proponent manage the cable landfall as part of the Work. To this end the Company is requesting engineering rates, a percentage markup for subcontracted engineering services plus a fee for the selection and management of a landfall Subcontractor and any other costs necessary to formulate a price for management of cable landfall design and construction.

In the event that Company opts to have the Successful Proponent perform the landfall on a time and materials basis it is requesting hourly rates for engineering services and a percentage markup for subcontracted engineering services in Form 0.3.10. Proponent shall provide the hourly rates requested in 9.1 and insert any additional rates it deems applicable to the execution of the landfall design. In 9.2 Proponent shall provide a percentage markup, if any, for subcontracted engineering services required to support the landfall design. In order to limit the Proponent's cost risk on this item the Company will reimburse Successful Proponent, at cost, for the Subcontractor costs associated with landfall execution and will reimburse Successful Proponent in a lump sum amount for the selection and management of the landfall Subcontractor(s). The lump sum amount is intended to include all costs associated with the selection and management of the landfall Subcontractor(s).

Proponent shall provide the lump sum amounts for item number 9.3 in Form 0.3.10. Proponent shall provide, as an attachment to Form 0.3.10, proposed Milestone Payments, for the lump sum amount proposed for the fee for management of the landfall Subcontractor. Each Milestone shall include a detailed set of criteria which Proponent proposes to trigger payment.

Proponents should note that feasibility studies for landfall method and location are on-going and as a result the landfall conceptual design has not been completed. In the event the conceptual design is completed prior to selection of the Successful Proponent, Company may, at its sole discretion, require Proponents to verify that the proposed cable design is technically suitable based on the landfall conceptual design and, if not, to make necessary adjustments to the design and Proposal Price. Additionally, at Company's sole option, Proponents may be required to submit a lump sum price for the design and execution of landfall. Instructions, if applicable, will be submitted as an Addendum to the RFP.

#### **0.4.13 Fibre Optic Cable Supply and Installation - (Optional Scope)**

Proponent shall provide the below specified amounts in Form 0.3.10 which will form the total lump sum amount for fibre optic cable supply and installation including joining, should Company opt to include the supply and installation of fibre optic cable in Successful Proponent scope of work. For the sake of clarity these items should not be priced as if they form a standalone piece of work. These items should be priced considering that if Company selects this option it will be supplied and installed at the same time as the HVDC cables. For the purposes of evaluation some of the below listed items have been divided into sub-items in Form 0.3.10. Proposal shall be submitted with the level of detail provided in Form 0.3.10.



**10.0 Fibre Optic Cable System and Installation (Optional)**

- 10.1 Fibre Optic Cable Supply
- 10.2 Fibre Optic Cable Installation and Protection
- 10.3 Spares Supply

**0.4.14 Performance Security**

Proponent shall provide rates, in the form of a lump sum or a percentage, for the provision of Performance Bond and letter of credit as detailed in Part 2 - Article 7 and Exhibit 9. Proponent shall provide a proforma Performance Bond, meeting Agreement requirements in Part 2 - Article 7 and Exhibit 9 as an attachment to Proposal Form 0.3.9.

**0.4.14.1 Evidence of Creditworthiness**

The Proponent must provide evidence of the creditworthiness of the [Guarantor] that is acceptable to Company, in its sole discretion, including without limitation, evidence of the credit rating of the [Guarantor]. Credit rating means, for the purposes of this section 04.14.1, the rating assigned to an entity's unsecured, senior long term debt obligations (not supported by third party credit enhancements) or, if such entity does not have a credit rating for its senior, unsecured, long term debt, the rating then assigned to such entity as an issuer rating, in each case, by Standard & Poors, Moody's and/or any other ratings agency designated by the Company from time to time.

**0.4.15 Additional Commercial Information Instructions****0.4.15.1 Corporate Data**

Proponent shall complete the attached Proposal Form 0.3.5 - Corporate Data Form (Section 0.3) and provide any supporting information requested therein.

Proponents shall provide in the form set out in Form 0.3.6. - Bank Clearance Letter, to each of its banks authorizing bankers to release credit information directly to Company.

**0.4.15.2 Declaration of Residency**

Proponent shall complete and submit the form set out in Form 0.3.7 - Declaration of Residency as part of its Proposal.

Proponents registered in Canada shall also submit a current Certificate of Compliance from Industry Canada and/or a Letter of Good Standing from the province in which they are registered.

Declaration of Residency and supporting documentation will be included in Exhibit 10 to the Agreement.

### **0.4.15.3 Commercial Exceptions / Qualifications**

Proponent shall respond signifying which of the following statements is correct:

1. Proponent accepts all commercial requirements of the Agreement, including the Agreement Articles, presented in the RFP and confirms that its Proposal is based on said requirements;

or

2. Proponent advises that its Proposal does not accept all commercial requirements of the Agreement, including the Agreement Articles, presented in the RFP and lists all such exceptions and qualifications to said requirements together with the reasons for such exceptions and qualifications for Company consideration.

Should Proponent signify Item 2 to be correct, Proponent shall record all such commercial exceptions, qualifications and proposed wording revisions and submit them as part of their Proposal. Exceptions or qualifications received after submittal of the Proposal will not be considered. Proponent shall submit all exceptions on the form set out in Form 0.3.8. - Exceptions with all of the requested information and shall include a black lined (changes tracked) version of the requested changes.

Proponent shall assign an extra cost to assume the liability, responsibility and/or risk associated with the acceptance of the original wording to which the exception is subject. Proponent shall not apply a cost to exceptions indicated as unconditionally unacceptable however Company may assign a negative score to such exceptions as part of its Proposal evaluation and selection process.

### **0.4.15.4 Alternative Commercial Proposals / Options**

Company invites Proponents to propose what they consider to be the best solution to the Company's needs as described in this RFP. Proponent is encouraged to review the Company's requirements and make recommendations as to how their solution can support these as well as identify opportunities for enhancement and/or improvement to better support Company's needs. Proponents may submit, along with its Proposal (but only if the base Proposal is submitted in accordance with the RFP), any alternative proposals or substitutions where Proponent considers that such an alternative would be a commercial, technical, economic or operational enhancement of the Company's original requirements. Such proposals must include all particulars of equivalent methods proposed, as well as the resulting price / schedule or quality change that

would result from the Company accepting the alternative proposal. The proposed alternatives must be summarized separately and submitted as Tab 4 – Alternative Commercial Proposals, of the Commercial Proposal section of the Proposal.

Company may accept or negotiate any alternative proposal or substitution, and its decision is final. The Proponent shall guarantee that their alternative proposals will satisfy the Company's requirements as identified in the RFP and that they are subject to the same conditions and guarantee requirements.

Each alternative Proposal so offered by Proponent shall be accompanied by a fully priced commercial Proposal detailing the cost adjustment to the Proponent's base Proposal. The format of the commercial Proposal shall be structured in a manner that, if accepted by Company, can be integrated into the existing compensation structure presented in Exhibit 2.

Company shall be under no greater obligation to the Proponent for alternative Proposals than for base Proposals.

#### **0.4.15.5 Synergies**

Proponent is asked to provide a description of the non-technical benefit that will be received by Company & Nalcor Energy Lower Churchill Project in the event Proponent is the Successful Proponent for this RFP E11-18 and RFP LC-SB-003 Strait of Belle Isle Submarine Cable Design, Supply and Install issued by Nalcor Energy.

#### **0.4.16 Nova Scotia and Newfoundland & Labrador Benefits Statement**

##### **0.4.16.1 Introduction**

This questionnaire is used to assess the Nova Scotia (NS) and Newfoundland & Labrador (NL) Benefits content contained in Proponent's Proposal.

Proponent is required to respond to the questions/statements outlined in this questionnaire in the format presented in the various sections herein. Accurate information, consistent with Canadian General Standards Board (see reference to calculations as described in section 0.4.16.7), is imperative. Failure to provide the information required may result in its Proposal being rejected. Information provided is subject to audit by Company. Extracts from this submission will be included in the final agreement with the Successful Proponent.

ENL Maritime Link Inc. has agreed to support a Memorandum of Understanding (MOU) between the Provinces of Nova Scotia and Newfoundland & Labrador that agrees on the

sharing of benefits resulting from the Maritime Transmission Link design and construction. This Benefits MOU outlines contracting, purchasing, and employment benefits objectives for the Maritime Transmission Link (ML).

[http://www.gov.ns.ca/energy/resources/EM/renewable/MOU-NS-NL-Execution-2011-\(Lower-Churchill\).pdf](http://www.gov.ns.ca/energy/resources/EM/renewable/MOU-NS-NL-Execution-2011-(Lower-Churchill).pdf).

In addition to the MOU, the Company is committed to gender equity and diversity. Successful Proponent will be required to undertake a commitment to support gender equity and diversity in the execution of Work on the ML. All contractors are required to adhere to applicable principles and commitments as outlined in this document.

#### **0.4.16.2 Proponent's understanding and Commitment to NS & NL Benefits Statement**

The ENL Maritime Link Inc. is committed to supporting the accrual of benefits for the people of Nova Scotia and Newfoundland & Labrador, while executing the ML on an economic basis adhering to competitive business practices. In support of this commitment, Proponent shall work to promote opportunities in Nova Scotia and Newfoundland & Labrador while maintaining the economic viability of the ML through application of best value in the acquisition of goods and services. For purposes of this Appendix, best value is defined as a blend of total cost, quality, commitment to safety, technical suitability, credit worthiness, delivery and continuity of supply and services, where total cost is comprised of initial purchase price plus operation and maintenance costs. Within this framework, if successful, Proponent shall with respect to services and Work being performed for the ML:

- I. provide suppliers and contractors in Nova Scotia and Newfoundland & Labrador with full and fair opportunity to participate on a competitive basis in the supply of goods and services;
- II. become familiar with Nova Scotia and Newfoundland & Labrador contractor/supplier capabilities, and size and design packages in a manner that recognizes these capabilities;
- III. make the request for proposal processes, names and locations of key procurement personnel available to potential Nova Scotia and Newfoundland & Labrador suppliers and contractors where appropriate; and
- IV. require benefits information as part of the request for proposal processes in sufficient detail to assess the benefits to be derived from a proposal, including requiring proponents to complete a Nova Scotia and Newfoundland & Labrador

Benefits questionnaire as part of that process.

Proponents are asked to respond to the following:

- a) Describe Proponent's experience with implementing local benefits strategies and agreements
- b) Describe Proponent's procurement policies and procedures that will ensure reasonable advance notice to the Nova Scotia and Newfoundland & Labrador supply community of all procurement opportunities
- c) Describe the Proponent's familiarity with Nova Scotia and Newfoundland & Labrador contractor/supply capabilities. If Proponent is not currently familiar with these capabilities, describe proposed steps to ensure familiarity

#### **0.4.16.3 Employment**

ENL Maritime Link Inc. has established a hiring protocol for the Maritime Link, consistent with the Canadian Charter of Human Rights and Freedoms, as outlined below.

For work at the Maritime Link the protocol is as follows:

- Qualified and Experienced Residents of Nova Scotia and Newfoundland & Labrador
- Qualified and Experienced Canadians
- Qualified and Experienced Non-Canadians

Proponents are asked to respond to the following:

- a) Describe Proponent's familiarity with the Nova Scotia and Newfoundland & Labrador workforce.
- b) Describe Proponent's human resource policies that will optimize Nova Scotia and Newfoundland & Labrador employment benefits.

#### **0.4.16.4 Gender Equity and Diversity**

Gender Equity and Diversity plans are being developed for the ML. These plans will address employment equity, including access to employment opportunities for qualified members of under-represented groups. For the purpose of this bid, underrepresented

groups are defined as women, aboriginal people, persons with disabilities and visible minorities.

Proponents are asked to respond to the following:

- a) Does Proponent have gender equity and diversity plans? If so, describe Proponent's policies, including harassment and discrimination policies that support gender equity and diversity.
- b) Does Proponent's human resource policies enable the voluntary identification of members of underrepresented groups.

#### **0.4.16.5 Benefits Reporting**

Company will be required to monitor and report on certain ML activities relating to employment and procurement. To assist in this effort, Successful Proponent will be required to submit data reports on a monthly basis regarding employment and expenditures. Company will provide a mechanism for submitting this information.

Employment data reporting is required for direct labour associated with the Work. Work is defined as the following:

1. Direct labour associated with the construction of a new high voltage direct current (HVDC) transmission system, between Newfoundland and Cape Breton, that includes the following elements and associated infrastructure associated with the scope of work covered in this RFP:
  - Design supply and installation of submarine cables;
  - Other potential infrastructure, as required.

It does not include labour associated with procured or manufactured items. Information collected will include the workforce to be broken out by occupation, work location, residency of worker, and gender. Category classifications will be provided by Company.

Expenditure data will also be collected. This will include total value of goods and services purchased from business within the provinces of Nova Scotia and Newfoundland & Labrador.

Proponent is asked to respond to the following:

- a) Indicate Proponent's previous experience at capturing employment and expenditure data as they relate to local benefits monitoring;

- b) Identify who, within Proponents organization, will be responsible for benefits monitoring and reporting.

#### 0.4.16.5 NS and NL Benefits Content – Person Hour Estimate

Proponent is required to provide, where applicable, an estimate of the direct labour (in person hours) used to complete the Work. Information should be categorized in terms of work location and residency of the workers, as outlined in the tables below.

Proponent is asked to complete the following:

##### a) Employment Estimate by Residency

Employment Category	NS	NL	Other Canada	Foreign	Total
Management					
Engineering					
Procurement and Contracting					
Construction and Assembly					
Other					
<b>Total</b>					

##### b) Employment Estimate by Location of Work

Employment Category	NS	NL	Other Canada	Foreign	Total
Management					
Engineering					
Procurement and Contracting					
Construction and Assembly					
Other					
<b>Total</b>					

**0.4.16.6 NS and NL Benefits Content – Expenditure Estimate**

Proponent is required to provide an estimate of the expenditure percentages associated with the Work. Information should be categorized as Nova Scotia, Newfoundland and Labrador, Other Canadian and Foreign Content using the Expenditure Table below.

Proponent is asked to complete the following:

**a) Expenditure Estimate Table**

Expenditure Type	NS	NL	Other Canadian	Foreign	Total
Materials and Equipment					
Direct Labour					
Services					
Overhead and Profit					
Other					
<b>Total</b>					<b>100%</b>

**0.4.16.7 Canadian General Standards Board-Definition of Canadian Content**

The purpose of the following examples is to discuss the application of Canadian General Standards Board “Definition of Canadian Content” in the context of the Maritime Transmission Link Project. The intent of the following notes is to provide “rules of thumb” to be used in calculating Nova Scotia and Newfoundland & Labrador content and Other Canadian content for the majority of situations, realizing that unique applications will arise which will have to be handled on a case by case basis.

Labour:

Classifications of labour charges (including engineering manpower) as Nova Scotia and Newfoundland & Labrador content or Other Canadian content depends on where work is physically performed, regardless of nationality or residency status of the workers. Work performed in Nova Scotia and Newfoundland & Labrador is considered Nova Scotia and Newfoundland & Labrador content; work performed elsewhere in Canada is



considered Other Canadian content; and, work performed outside of Canada is considered non-Canadian content.

For example, costs associated with a Nova Scotia or a Newfoundland & Labrador resident, a Canadian and a Norwegian working full-time in a contractor's office in Montreal are considered 0% Nova Scotia and Newfoundland & Labrador content, 100% Other Canadian Content and 0% Non-Canadian content. Conversely, the costs associated with these same people working 50% in Halifax, 30% in Montreal and 20% in Oslo are considered 50% Nova Scotia Content, 30% Other Canadian content and 20% Non-Canadian content.

#### Materials:

Materials content classification depends on the country where the materials used in final processing were obtained. For example, consider a Newfoundland & Labrador cement plant which obtains its materials (limestone and additive requirements) as follows... 20% from the U.S., 30% from elsewhere in Canada and 50% from within Newfoundland & Labrador; Further assume that the materials comprise 70% of the costs of the finished product, and the labour, services and overhead, (which are assumed as 100% Newfoundland and Labrador), comprise the other 30% of the cost of the finished product. The finished product would be 65% Newfoundland and Labrador content, 21% Other Canadian content and 14% Non-Canadian content.

$$\% \text{ Newfoundland \& Labrador} = (50 \times 0.7) + (100 \times 0.3) = 65\%$$

$$\% \text{ Other Canadian} = (30 \times 0.7) + (0 \times 0.3) = 21\%$$

$$\% \text{ Non-Canadian} = (20 \times 0.7) + (0 \times 0.3) = 14\%$$

#### Equipment:

Equipment content classification depends on the country where the main components of the finished product were obtained. For example, consider a Canadian plant (located outside of Nova Scotia or Newfoundland & Labrador) which produces electrical equipment; and assume that the main components of this equipment are sourced and posted as follows; component A is 100% U.S. content and comprises 35 of the finished cost; component B is 100% Japanese content and comprises 25% of the finished costs; and, the other materials component C, labour and overhead are 100% Other Canadian content and comprises 40% of the finished product cost. This completely assembled equipment is then shipped to a Maritime Link converter station site in Nova Scotia for

installation by another contractor. In this case the Nova Scotia content of this equipment is 0%; the Other Canadian content of the equipment is 40%; and, the Non-Canadian content of this equipment is 60%.

$$\% \text{ Nova Scotia} = (0 \times 0.35) + (0 \times 0.25) + (0 \times .40) = 0\%$$

$$\% \text{ Other Canadian} = (0 \times 0.35) + (0 \times 0.25) + (100 \times .40) = 40\%$$

$$\% \text{ Non-Canadian} = (100 \times 0.35) + (100 \times 0.25) + (0 \times 0.40) = 60\%$$

#### Services:

Services, which include such things as NDE inspection, leased equipment, major marine transportation contracts, cleaning services etc., are classified according to the location of the supplier's service office. For example, a Japanese manufactured compressor is leased from the active, staffed office, located in Nova Scotia or Newfoundland & Labrador, of a Norwegian incorporated company, the profit portion of the compressor lease charges are considered overhead (and classified, as described in the section Overhead Charges), and the remaining portion of the charges are considered Nova Scotia or Newfoundland & Labrador content. (It should be noted that the sources of the leased equipment is not a factor in a leasing/renting situation).

#### Transportation Charges:

Transportation charges follow the classification of the labour, materials or services which are being shipped. (Note that major marine transportation contracts are classified services; see above).

#### Overhead Charges:

Overhead charges refer to costs such as supplier mark-ups, carrying charges, restocking costs and profit margins which are included as part of the cost of labour, materials or services. The content classification of this portion of the costs depends on the country of incorporation of the contractor and/or supplier. For example, if a U.S. manufactured valve is supplied from a Canadian distributor whose cost is \$800 and mark-up etc., is \$200 for a total of \$1000, and this Canadian distributor the supplies this valve to a Nova Scotia or Newfoundland & Labrador distributor whose cost is \$1000. And a mark-up etc. of \$100; the final cost to the maritime Link project is \$1100. In this case the Nova Scotia or Newfoundland & Labrador content is 09%; the Other Canadian content is 18%; and the Non-Canadian content is 73%.

**SECTION 0.5**

**TECHNICAL PROPOSAL QUESTIONNAIRE**

## **0.5 TECHNICAL PROPOSAL QUESTIONNAIRE**

### **0.5.1 Introduction**

The Technical Proposal Questionnaire shall be completed and submitted by Proponent as part of the Proposal. It will be evaluated by Company as part of Company's overall evaluation process.

The Technical Proposal Questionnaire must be completed for each type of cable system submitted in the Proposal, namely; mass impregnated, polymeric, or both as well as any alternative proposal.

Exhibit 1 of Part 2 – Scope of Work describes the Work. However, Exhibit 1 is not intended to outline all Agreement requirements. The entire Agreement contains Successful Proponent's anticipated obligations and must be considered by Proponent in completing the Technical Proposal Questionnaire.

Questionnaire responses shall be presented in the same order, numbering system and format as presented in this questionnaire.

Some of the information requested in this questionnaire might duplicate information requested in other sections of this RFP. It is important that Proponent's response to this questionnaire be complete.

Where applicable, information provided in the Technical Proposal will form part of the Agreement.

### **0.5.2 Execution Plan**

Provide a preliminary execution plan to enable Company to fully assess Proponent's understanding of the Work and evaluate Proponent's approach, commitment and ability to carry out the Work.

The preliminary execution plan shall describe:

- a) Each element of the Work to be performed and completed;
- b) How each element of the Work will be performed and completed;
- c) When each element of the Work will be started and completed;
- d) Where each element of the Work will be performed and completed; and
- e) Who among Proponent, and if applicable, consortium members and Subcontractors will have responsibility for each element of the Work.

Proponent's preliminary execution plan shall be a clear narrative supported as necessary by schematics, organization charts, and diagrams in sufficient detail for Company to assess Proponent's overall intent, and shall clearly define responsibilities of consortium

members and/ or candidate Subcontractors, as applicable. The requirements for various components of the execution plan are further defined in Exhibit 1 – Scope of Work, and Exhibit 4 - Coordination Procedures.

The preliminary execution plan shall specifically describe:

- a) Project objectives with critical success factors;
- b) Key risks, risk management, and critical success factors;
- c) Project organization;
- d) Roles and responsibilities (Proponent, consortium members, Subcontractors);
- e) Project mobilization and staffing plan for all Project phases clearly identifying how personnel will be assigned to the various locations;
- f) Project management systems and procedures;
- g) Planning and scheduling;
- h) Document control/ document management;
- i) Interface management;
- j) Reporting;
- k) Information management;
- l) Procurement management;
- m) Subcontract management;
- n) Management of change;
- o) Accounting and invoicing;
- p) Project Quality Plan;
- q) Project Safety Plan;
- r) Environmental management plan;
- s) Regulatory compliance;
- t) Interface with 3rd Party Surveyor;
- u) Procurement plan;
- v) Execution philosophy/method statements;
- w) Engineering execution (resources and tools available);
- x) Procurement execution (resources and tools available);
- y) Onshore cable manufacturing execution;
- z) Onshore manufacturing completion, testing (methodology, resources and tools required);
- aa) Loadout and transportation;
- bb) Offshore installation execution (nominated installation vessel selection, Contractor's Spread make-up; installation sequence, installation methodology and weather limitations on operations);
- cc) Fiber optic telecommunications cable manufacturing, installation, testing and termination methodology (optional scope);
- dd) Offshore and onshore protection execution (nominated protection spread selection, spread make-up, execution sequence, protection methodology and weather limitations on operations);
- ee) Onshore installation execution (termination, trenching, land cable installation,

- and land cable protection);
- ff) Landfall construction Subcontractor selection and management (optional scope);
- gg) Cable System Pre-commissioning, performance testing, and handover to Company (methodology and resources and tools required); and
- hh) Manufacturing completion execution (as-built survey, as-built drawings, data books, test report summaries, operations & maintenance manuals, documentation handover and other final contract documentation).

It is anticipated that Proponent's execution plan will be discussed, clarified, and possibly revised and amended during the evaluation and clarification process. The revised and amended preliminary execution plan, once agreed and accepted by Company, will become part of the Agreement.

### **0.5.3 Cable System Supply**

Provide preliminary descriptions to support proposed cable system designs for the Maritime Link including evidence of mechanical and electrical testing, material validation and minimum requirements defined within the Exhibit 1 – Scope of Work, and documents listed in Exhibit 6 - Company Supplied Document Listing.

Define all applicable laws, standards, codes and regulations pertaining to the design, manufacture, supply and installation of the HVDC cables.

Describe, without limitation, the HVDC cable structural makeup and associated equipment required, including terminations, joints, installation aids, corrosion protection, abrasion protection, and all ancillary equipment, for the described manufacturing, transportation, installation and operation.

Documentation shall state maximum environmental service and installation loads applicable to the HVDC cable system.

Proponent may provide justification for a preferred design submittal where more than one design has been submitted.

Provide, without limitation, preliminary technical descriptions of the following for all cable system designs:

- a) Cable length – submarine;
- b) Cable length - land
- c) Cable cross section drawings (submarine and land);
- d) Termination design, general details and drawings;
- e) Surge arrester design, general details and drawings;
- f) Factory joint details (number and locations of each factory joint);
- g) Field joint design, details and drawings (submarine and land);

- h) Cathodic protection system design, details and drawings;
- i) Transition joint, transition jointing bay, and anchor design, details and drawings;
- j) Embedded fiber optic design, details and operating requirements, for distributed temperature sensing (DTS);
- k) All design calculations and justifications required to support the proposal;
- l) Spares philosophy including quantities (spare submarine cable, spare land cable, spare terminations, spare joints and all other applicable ancillary equipment);
- m) Details of all additional accessories, ancillary equipment and appurtenances required for design, supply and installation of the submarine cable system;
- n) Fiber optic communications cable design and details (to include supply, installation, landfall, protection, and testing); and
- o) Final cable routing.

Limiting environmental design criteria for installation and operation during life design shall be provided for all cable system permanent equipment.

Provide the proposed cable design parameters for all cable designs submitted as per the following tables:

#### MASS IMPREGNATED CABLES:

PARAMETER	UNITS
<b>GENERAL</b>	
Type	
Rated voltage	kV DC
Switching impulse withstand voltage	kV DC
Lightning impulse withstand voltage	kV DC
Rated capacity (continuous at rated voltage)	A
Rated overload capacity and time (transient)	_____ A, _____ s
Inductance	mH/km
Capacitance	uF/km
Operating temperature (continuous) at rated capacity	deg C
Maximum allowable operating temperature	deg C
Maximum allowable pulling tension	kN
Maximum allowable laying tension	kN
Tensile load distribution: armour/conductor	____%/____%
Minimum bend radius (with and without tension)	_____m_____m
Minimum handling temperature (installation)	deg C
Cable weight in air	kg/m
Cable weight in water	kg/m
Yield strength of conductor	N/mm <sup>2</sup>
Yield strength of conductor factory joint	N/mm <sup>2</sup>

PARAMETER	UNITS
Maximum allowable side wall pressure	N/m
Impact resistance	kJ
Vertical inclination limit at rated temperature	Deg
Bending Rigidity	N.m <sup>2</sup>
Torsional Rigidity	N.m <sup>2</sup>
Allowable twist per unit length	Rads/m
Minimum tension to avoid cable looping	kN
Metal content in cable (where applicable):	
copper (Cu)	kg/m
aluminum (Al)	kg/m
lead (Pb)	kg/m
steel	kg/m
DC resistance at 20 deg C	ohm/km
DC resistance at steady state conductor operating temperature at rated capacity (continuous)	ohm/km
<b>CONDUCTOR</b>	
Material composition	
Type	
Conductor nominal outside diameter	mm
Cross-sectional area	mm <sup>2</sup>
<b>CONDUCTOR SCREEN</b>	
Material	
Minimum and nominal thickness	mm
Nominal outside diameter	mm
<b>INSULATION</b>	
Material	
Thermal resistivity	K.m/W
Impregnating fluid composition	
Minimum thickness	mm
Nominal thickness	mm
Maximum allowable temperature drop across insulation	Deg C
Nominal outside diameter	mm
Maximum electric stress at conductor screen (no load and at steady state conductor operating temperature at rated capacity)	kV/mm
Maximum electric stress at insulation screen (no load and at steady state conductor operating temperature at rated capacity)	kV/mm
Average electric stress in insulation at rated capacity	kV/mm
Dielectric loss angle (tan $\delta$ )	
Permittivity, $\epsilon$	
Temperature dependency coefficient, $\alpha$	K <sup>-1</sup>
Dielectric design coefficients	$\beta = \quad \gamma = \quad \delta =$



<b>PARAMETER</b>	<b>UNITS</b>
<b>INSULATION SCREEN</b>	
Material	
Minimum and nominal thickness	mm
Nominal outside diameter	mm
Maximum temperature	deg C
<b>METALLIC SHEATH</b>	
Material composition	
Minimum thickness	mm
Average thickness	mm
Nominal outside diameter	mm
<b>OVERSHEATH</b>	
Material	
Minimum thickness	mm
Average thickness	mm
Nominal outside diameter	mm
Thermal resistivity	K.m/W
<b>METALLIC TAPE (if used)</b>	
Material	
Nominal thickness and width	mm/mm
Nominal outside diameter	mm
<b>ARMOR BEDDING</b>	
Material	
Nominal thickness	mm
Nominal outside diameter	mm
Thermal resistivity (wet and dry)	K.m/W
<b>ARMOR</b>	
Material composition/grade	
Armour wire size	
Galvanizing type and thickness	mm
Number of layers	
Lay-up length	m
Number of wires in each layer	
Tensile strength	kN
Nominal outside diameter of each armour layer	mm
<b>OUTER SERVING</b>	
Material	
Layer thicknesses	mm
Thermal resistivity (wet and dry)	K.m/W
Nominal outside diameter	mm

**POLYMERIC CABLES:**

<b>PARAMETER</b>	<b>UNITS</b>
<b>GENERAL</b>	
Type	
Rated voltage	kV DC
Switching impulse withstand voltage	kV DC
Lightning impulse withstand voltage	kV DC
Rated capacity (continuous at rated voltage)	A
Inductance	mH/km
Capacitance	uF/km
Operating temperature (continuous) at rated capacity	deg C
Maximum allowable operating temperature	deg C
Maximum allowable pulling tension	kN
Maximum allowable laying tension	kN
Tensile load distribution: armour/conductor	___%/___%
Minimum bend radius (with and without tension)	___m___m
Minimum handling temperature (installation)	deg C
Cable weight in air	kg/m
Cable weight in sea water	kg/m
Yield strength of conductor	N/mm <sup>2</sup>
Yield strength of conductor factory joint	N/mm <sup>2</sup>
Maximum allowable side wall pressure	N/m
Impact resistance	kJ
Bending Rigidity	N.m <sup>2</sup>
Torsional Rigidity	N.m <sup>2</sup>
Allowable twist per unit length	Rads/m
Minimum tension to avoid cable looping	kN
Metal content in cable (where applicable):	
copper (Cu)	kg/m
aluminum (Al)	kg/m
lead (Pb)	kg/m
Steel	kg/m
DC resistance at 20 deg C	ohm/km
DC resistance at steady state conductor operating temperature at rated capacity (continuous)	ohm/km
<b>CONDUCTOR</b>	
Material composition & Supplier Designation	
Type	
Conductor nominal outside diameter	mm
Cross-sectional area	mm <sup>2</sup>

PARAMETER	UNITS
Water blocking compound	
<b>CONDUCTOR SCREEN</b>	
Material	
Minimum and nominal thickness	mm
Nominal outside diameter	mm
Volume Resistivity	$\Omega.m$
<b>INSULATION</b>	
Material & supplier/compound designation	
Volume resistivity	$\Omega.m$
Thermal resistivity	$K.m/W$
Minimum thickness	mm
Nominal thickness	mm
Maximum allowable temperature drop across insulation	Deg C
Nominal outside diameter	mm
Maximum electric stress at conductor screen (no load and at steady state conductor operating temperature at rated capacity)	kV/mm
Maximum electric stress at insulation screen (no load and at steady state conductor operating temperature at rated capacity)	kV/mm
Average electric stress in insulation at rated capacity	kV/mm
Dielectric loss angle ( $\tan \delta$ )	
Permittivity, $\epsilon$	
Temperature dependency coefficient, $\alpha$	$K^{-1}$
Dielectric design coefficients	$\beta = \gamma = \delta =$
<b>INSULATION SCREEN</b>	
Material	
Minimum and nominal thickness	mm
Nominal outside diameter	mm
Volume Resistivity	$\Omega.m$
Maximum temperature	deg C
<b>WATER BLOCKING LAYER</b>	
Material description	
Volume resistivity	$\Omega.m$
Thickness	mm
Nominal outside diameter	mm
Thermal resistivity	$K.m/W$
Maximum Temperature Rating	deg C
<b>METALLIC SHEATH</b>	
Material composition	
Minimum thickness	mm
Average thickness	mm

<b>PARAMETER</b>	<b>UNITS</b>
Nominal outside diameter	mm
<b>OVERSHEATH</b>	
Material	
Minimum thickness	mm
Average thickness	mm
Nominal outside diameter	mm
Thermal resistivity	K.m/W
<b>METALLIC TAPE</b>	
Material	
Nominal thickness	mm
Nominal outside diameter	mm
<b>ARMOR BEDDING</b>	
Material	
Nominal thickness	mm
Nominal outside diameter	mm
Thermal resistivity (wet and dry)	K.m/W
<b>ARMOR</b>	
Material composition/grade	
Armour wire size	
Galvanizing type and thickness	mm
Number of layers	
Lay-up length	m
Number of wires in each layer	
Tensile strength	kN
Nominal outside diameter of each armour layer	mm
<b>OUTER SERVING</b>	
Material	
Layer thicknesses	mm
Thermal resistivity (wet and dry)	K.m/W
Nominal outside diameter	mm

Criteria, justification, calculations, reporting or testing requirements not defined within Exhibit 1 – Scope of Work, but relevant to the cable supply, shall be included with the proposal.

Proponent shall provide descriptions of the proposed cable system design(s) by submitting preliminary/typical versions of the following:

- a) Corrosion and cathodic protection design calculations;
- b) Insulation coordination assessment including surge arrester design;
- c) Ampacity calculations for all combinations of the proposed as-built configurations;

- d) Installation analysis including, without limitation, cable lay, jointing, land cable protection, submarine cable protection, joint limitations, fiber optics reliability, minimum temperature handling limits and Proponent's Spread including all marine equipment and vessels required to perform the Work with weather limitations, proposed abandoning limits and decision process for abandonment/recovery for all individual components ;
- e) Thermal-mechanical design performance for all proposed as-built configurations (shall also include assessment of cyclic loading due to thermal expansion and expansion/contraction of the cable conductor and potential loading on termination);
- f) Special test procedures and Contractor proposed acceptance criteria, in accordance with the Special Tests described in Exhibit 1B – Cable System Performance Specification;
- g) Reliability, availability, and maintainability assessment (RAM) for the cable system(s) proposed;
- h) Details for grounding of cable armor and sheaths;
- i) Land and submarine cable protection design and installation methodology;
- j) Manufacturing quality plan (for all proposed cable types);
- k) Jointing methods and general arrangements for the proposed design type(s);
- l) Electrical clearance and spacing requirements for cable system accessories within transition compound, including but not limited to, terminations and surge arresters;
- m) Factory and site testing methods and plan;
- n) Inspection and test plans for manufacturing and installation, for proposed cable type(s);
- o) Fault location methodology and accuracy (submarine & land);
- p) Cable repair methodology and provision of cable repair personal or mobilization lead time in event a repair is needed during installation
- q) Emergency abandonment procedures during offshore installation activities;
- r) Methodology for post-loadout testing and pre-commissioning (may be incorporated with item no. (n) above);
- s) Spares philosophy including recommendations for all phases of the Work to meet or exceed the design life specified in Exhibit 1B – Cable System Performance Specification;
- t) Maintenance plan for design life of the cable system;
- u) Dimensional control methods;
- v) Cable armor anchor general details and drawings;
- w) Quality verification methods of metallic sheath extrusion process;
- x) Fiber optic supplier information and system specification for DTS operation;
- y) Transition joint bay details;
- z) Turntable/carousel design details for spare cable storage in Company defined locations on the island of Newfoundland or Nova Scotia; and
- aa) Telecommunications fiber optic supplier information and fiber optic cable specifications.

Proponent shall provide historical documentation for the following, to support the proposed cable designs:

- a) Pre-qualification test reports (polymeric cables only) of previously supplied cables at the same electrical and mechanical operating stresses or higher;
- b) Type Test Reports indicating certifying body (all proposed cable types) of previously supplied cables at the same electrical and mechanical operating stresses or higher;
- c) Operational reliability history for previously supplied (by vendor to other companies) mass-impregnated and/or polymeric insulated cable designs of voltages 150 kV and above;

#### **0.5.4 Subcontractors**

Provide a complete listing and details of all proposed Subcontractors.

Identify the name of the proposed Subcontractors, the element of the Work proposed to be subcontracted, and the principal location at which the proposed Subcontractors would perform that element of the Work.

The level of Subcontractor surveillance is pending magnitude and criticality of subcontracted works to be defined by Company. The Company reserves the right to request replacement of any Subcontractor to the Proponent without limitation.

#### **0.5.5 Proponent Organization**

Provide sufficient detail with respect to Proponent's corporate structure, proposed project organization and key personnel to demonstrate an adequate understanding of the requirements for the management of the performance of the Work and the satisfaction of all obligations of Contractor under the Agreement.

Describe the Project specific organization that Proponent proposes for the management and control of the performance of the Work. The organizational structure shall be presented as a series of organization charts that clearly identify the lines of authority for all Agreement management functions.

Typical organization charts shall be arranged to present the proposed organization for each phase or separate element of the Work and shall include, as a minimum:

- a) Overall Project management, inclusive of all significant subcontract interfaces;
- b) Overall Project quality management;
- c) Overall Project Health Safety & Environment (HSE) management;
- d) Engineering management and execution;
- e) Procurement management including Subcontractor and supplier management;
- f) Cable manufacturing plant management;

- g) Loadout and transportation execution;
- h) Onshore and offshore protection execution;
- i) Offshore installation execution;
- j) Onshore installation execution; and
- k) Pre-commissioning and mechanical completion management and execution.

The respective organization charts shall clearly identify:

- a) Proponent's proposed Key Personnel (Where Proponent is a consortium, the relevant employing consortium member shall be named);
- b) Any Subcontractor Personnel that are proposed to be integrated into Proponent's project management organization; and
- c) The organization of any nominated significant Subcontractor, including any key Personnel of the Subcontractor.

Curriculum Vitae's of all key Personnel shall be provided to support the proposed organizational structure.

#### **0.5.6 Proponent's Facilities**

Describe all facilities that are proposed for the performance of the Work. The information provided shall cover both Proponent's own facilities and the facilities of nominated Subcontractors. Details of Proponent's facilities as agreed with Company as part of the formal Proposal clarification process will be included in the Agreement.

The description of Proponent's facilities shall include the following:

- i) Central project management / engineering / procurement office

Describe the proposed central project management / engineering / procurement office, inclusive of:

- a) Location;
- b) Office facilities and amenities;
- c) Communication and IT equipment; and
- d) Office arrangement and facilities for Company personnel.

- ii) Engineering Software

Describe the computer equipment and software programs that Proponent proposes to use for the performance of the engineering for the Work, including, but not limited to:

- a) Structural design analysis;
- b) Electrical design analysis;
- c) Installation analysis;

- d) Cable landfall analysis;
  - e) Cable protection analysis;
  - f) Thermal-mechanical design analysis;
  - g) Ampacity analysis;
  - h) On-bottom stability analysis;
  - i) Insulation coordination system study;
  - j) Cathodic protection design;
  - k) Fiber Optic for communication and DTS;
  - l) Safety engineering;
  - m) Manufacturing monitoring and completion system;
  - n) Pre-commissioning system;
  - o) Document control system; and
  - p) Interface system.
- iii) Manufacturing Plant Facilities

Provide a complete description of its proposed cable manufacturing facilities for the principal elements of the Work. Where Proponent is proposing more than one manufacturing facility, a separate attachment shall be provided for each facility. The details for each onshore manufacturing plant and yard shall include:

Location;

- a) Layout detailing the locations of office accommodations, material storage, pre-fabrication facilities, and cable manufacturing facilities.
- b) Loadout facilities and yard, including storage, transpooling, and marine access;
- c) Any special yard or plant upgrade work required, as identified in the execution plan;
- d) Any additional equipment required to be mobilized for the Work; and
- e) Office arrangement and facilities for Company personnel.

iv) Offshore Marine Facilities

Provide a complete description of the Contractor's Spread required for the satisfactory performance of the Works, as well as details of all previous assignments in Canada. Identify and list all marine craft for transport and installation, protection, equipment, construction personnel and below deck crew necessary for the marine spread to function as intended in the performance of a particular element of the offshore Work. Details shall be provided for Contractor's Spread required by Proponent's chosen offshore execution methodology, for the transportation, installation, protection and pre-commissioning of the Work.

Provide complete details of the primary installation vessels as per vessel specification to suit Proponent's chosen offshore execution methodology defined in the Exhibit 1 –



Scope of Work. The Proponent shall explicitly detail where the nominated vessel does not conform to the vessel specification defined in Exhibit 1.

Details of the last and future required dry dockings shall be supplied to Company.

Provide the maximum weather and environmental conditions in which the Contractor's Spread can perform Work including, without limitation, wave height, wave period, current, visibility, wind and any other conditions thereof.

Provide an alternative or secondary installation vessel to be available in the event that the primary installation vessel is unable to perform the Work. Provide alternative or secondary installation vessels for other vessels in Contractor's Spread, as Proponent deems necessary to perform the Work.

Provide a separate attachment for each installation vessel proposed. Brochures and specifications of the installation vessel(s) shall be included as part of the Proposal, as appropriate. This shall include the specification and quantity of support vessel(s) and any other vessel necessary to perform the work.

Provide certificates, specifications and limiting sea state criteria for the operability of all cranes/davits/A-frames and all such similar lifting and hoisting ads. Wind shall also be considered in limiting crane operations.

Details to be provided in accordance with Exhibit 1C – Vessel Specification.

Provide the Company with details of all past relevant vessel assurance audits, trials and systems pertaining to the Contractor's Spread. This shall include, but not be limited to:

- a) Dynamically Positioned (DP) vessel annual trials;
- b) Remote Operated Vehicle (ROV) and equipment audits;
- c) Crane and lifting equipment audits;
- d) Navigation, communication and survey audits;
- e) Helideck audit, if applicable;
- f) HSE audit;
- g) Quality assurance audit;
- h) Control of Substance Hazardous to Health (COSHH) audit;
- i) International Safety Management (ISM) Code Audit;
- j) Disposal of waste;
- k) Planned maintenance systems; and
- l) Offshore Site Facilities
- m) Nominated marine base

Describe onshore site facilities including equipment, construction personnel and facilities necessary to execute the onshore site requirements for completion of the

Work. Details shall be provided for each onshore site required by Proponent's chosen execution methodology, for the following activities.

- a) Termination installation;
- b) Onshore Site Facilities.
- c) Cable termination in transition compound;
- d) Fiber optic and distributed temperature sensing unit termination;
- e) Cable interim testing and pre-commissioning;
- f) Anchoring of submarine cable (if required);
- g) Land cable protection;
- h) Land cable jointing (if required);
- i) Land cable laying;
- j) Pre commissioning equipment;
- k) Commissioning support;
- l) Surge arrestors;
- m) Telcoms installation and termination; and
- n) Transition bays.

#### **0.5.7 Planning and Scheduling**

Provide sufficient detail with respect to the sequence, timing and duration of the principal activities and phases of the Work to clearly demonstrate that the Work can be satisfactorily performed and completed on schedule. The control schedule detail provided shall in all respects be compatible with Proponent's execution plan and method statement.

Company has declared a target mobilization completion date for the installation program of 15 May, 2016 with Contractor's Spread at Worksite, with the possibility of mobilization completion as early as 01 May 2016. This relates to potential seasonal environmental issues such as sea state conditions and pack ice. Successful Proponent shall propose commercial terms for a collapsing mobilization call-out window, in an attachment to 0.3.10 – Commercial Form of Proposal, which addresses this objective. The call-out window shall have an early date of 01 May 2016 and a minimum late date of 30 May 2016. The final agreed terms will be incorporated into Part 2, Exhibit 2 of the Agreement.

Provide a Milestone Schedule which identifies a number of Milestones that it perceives to be significant events during the performance of the Work. The Milestones proposed by Proponent shall be in the format and in addition to the key Milestones designated by Company in Exhibit 11 – Milestone Schedule.

However, the actual nomination of Milestones shall be determined by Proponent appropriate to its proposed execution methodology.

Provide with Proposal a statement of Proponent's proposed criteria for measuring and determining the completion of the Milestone, for each Milestone. A Milestone table with associated Milestone acceptance criteria, as agreed with Company, as part of the formal Proposal clarification process, will be included in Exhibit 11 – Milestone Schedule.

Provide proposed control schedule for the Work, in both electronic format and hard copy. The Control Schedule shall be equivalent to the level of detail referenced in Exhibit 4 - Coordination Procedures and shall incorporate the Milestones designated by Proponent in 0.5.6 above.

Details of Proponent's control schedule as agreed with Company as part of the formal Proposal clarification process will be included in Exhibit 11 – Milestone Schedule.

The Proponent's proposed control schedule will be a logically linked network covering the entire scope of Work, provided in both electronic format and hard copy. The Control Schedule shall be in the form of a critical path network, shall include all Milestones, and shall be in a format equivalent to the details referenced in Exhibit 4 - Coordination Procedure.

The control schedule will be used by Company during the evaluation of the Proposal to assess the relative strengths and weaknesses of the planning logic employed by Proponent in its overall execution plan and method statement. Accordingly, Proponent shall provide an electronic source file.

Provide the planned progress s-curves as derived from the control schedule. Planned progress s-curves shall be prepared for:

- a) Overall Agreement;
- b) Engineering;
- c) Procurement;
- d) Manufacturing / fabrication; and
- e) Cables system installation, testing and handover to the Company.

Provide the following additional information used in the preparation of the control schedule:

- a) Details of the estimated marine operation durations and all standby allowances (including weather standby, maintenance etc.);
- b) Details of the standard working hours per week used to establish Proponent's control schedule, and the flexibility to implement overtime working;
- c) All other assumptions, including assumptions related to interfaces with other entities; and
- d) Details of the scheduling tool settings used, such as calendar for lags, scheduling

vs. leveling, scheduling method for progressed activities (progress override, retained logic, actual dates), definition of critical, Units per Time period settings, total float and calculation method.

Provide a schedule development and control plan which shall cover all essential areas of schedule development and control, including schedule analysis, schedule forecasting, schedule reporting, and corrective action. In particular, the plan shall provide a detailed description of Proponent's progress measurement methodology. The progress measurement plan should describe how Proponent will measure, verify and report physical progress of each major activity of the Work (e.g., engineering, procurement, manufacturing, installation and pre-commissioning).

#### **0.5.8 Current, Booked and Projected Work Commitments**

Provide sufficient detail with respect to current and projected work commitments to clearly demonstrate the available uncommitted capacity of Proponent's proposed facilities and resources to ensure that the Work can be satisfactorily performed and completed in accordance with the Contract schedule. The information provided shall cover Proponent's own facilities and the facilities of nominated significant Subcontractors. The current and projected work commitment information provided in response to this section shall, where applicable, be an update and expansion of the information previously submitted by Proponent in response to the Prequalification Documents.

Provide the current, booked and five (5) year projected work commitments for:

- a) Cable system design engineering;
- b) Cable system manufacturing facility/yard;
- c) Installation engineering;
- d) Primary installation and transportation vessel(s);
- e) Secondary installation and transportation vessel(s); and
- f) Protection installation vessels and spread;

The information provided by Proponent in response to this item shall include;

- a) Current work in progress;
- b) Work awarded (booked) but not commenced;
- c) Work for which proposals have currently been issued or are in the process of being proposed; and
- d) Other work that Proponent expects to be released for Proposal and awarded in the next twelve months.

The information provided shall be in the form of resource charts in histogram form for engineering and construction facilities and shall include summary project description detail, scheduled commitment timing and duration and percentage allocation of Proponent resources for all work or potential work indicated herein.

### **0.5.9 Technical Exceptions**

The Proponent shall confirm that its Proposal is based on the Company's stated requirements as set forth in this RFP, or advise if the Proposal does not comply with all technical requirements and shall submit a consolidated list of all such exceptions together with the reasons for such exceptions and qualifications, for Company consideration.

**SECTION 0.6**

**QUALITY MANAGEMENT QUESTIONNAIRE**

## 0.6 QUALITY MANAGEMENT QUESTIONNAIRE

### INTRODUCTION

The Quality Management Questionnaire must be completed and submitted as part of the Proposal. It will be evaluated by Company as part of Company's overall evaluation process.

Exhibit 1 of Part 2 – Scope of Work describes the Work. However, Exhibit 1 is not intended to outline all of the Company's requirements as set forth in this RFP. The Agreement contains Successful Proponent's anticipated obligations and must be considered by Proponent in completing the Quality Management Questionnaire.

Questionnaire responses shall be presented in the same order, numbering system and format as presented in this questionnaire. Responses can be provided in the spaces provided herein if desirable.

Some of the information requested in this questionnaire might be repetitive to information requested in other sections of this RFP. It is important that Proponent's response to this questionnaire be complete. Accordingly, if necessary, Proponent should repeat any such information.

Where applicable, information provided in the Quality Management Questionnaire will form part of the Agreement.

**In all cases the Proponents shall provide copies of internal documented procedures to support their responses.**

### 0.6.1 Quality Management System

- a) Does Proponent have a registered Quality Management System? If "Yes" please provide a copy of the registration certificate.
- b) If Proponent has a registered Quality Management System, please provide the Table of Contents of your Quality Manual and/or Procedures manual.
- c) Do you have a documented audit schedule for both internal and external (Vendor & 3<sup>rd</sup> Party) audits? If so please provide.
- d) Please provide a copy of the Minutes of Meeting for the most recent Management Review of Proponent's quality management system (subject to removal of proprietary information).
- e) If ISO 9001:2008 registration is held, please provide a copy of last third (3<sup>rd</sup>) party surveillance report.

### **0.6.2 Quality Objectives**

Has Proponent's senior management ensured that quality objectives are established within the organization? If so, please provide a list of current quality objectives established by Proponent. How are the quality objectives established?

### **0.6.3 Contract Review and Quality Planning**

Briefly describe any processes employed by Proponent to plan your activities related to the provision of any products and/or services. If available, provide typical examples of Quality Plans and / or Inspection and Test Plans.

### **0.6.4 Design Control**

Briefly describe the processes used to plan and control the design of the products and services to be supplied. Include references to the following processes:

- Design Planning
- Design Review
- Design Verification
- Design Validation
- Design Changes

### **0.6.5 Capacity and Resources**

Describe how this scope of work relates to the total annual productive capacity of your company and that of your main suppliers.

### **0.6.6 Supplier / Sub-Contractor Management**

Briefly describe your supplier / Sub-contractor selection process and any processes employed to monitor continued performance against the Company's requirements as set forth in this RFP. In your response include a list of any services associated with this scope of work that would typically be sub-contracted out and where appropriate, the agreement details for that sub-contractor.

### **0.6.7 Quality Control**

What techniques does Proponent employ to verify that the products and/or services have been manufactured and/or delivered appropriately and in accordance with contract requirements? What verification records are generated?



**0.6.8 Control of Inspection, Measuring and Test Equipment**

What processes does the Proponent employ to ensure that inspection is performed and measuring and test equipment is fully calibrated and functioning appropriately?

**0.6.9 Management of Non-Conformances (Identification & Disposition)**

When products and/or services do not meet requirements, what processes are employed to ensure timely resolution of the problem? If so, what records of the problem and solution are generated?

**0.6.10 Root Cause**

Briefly describe your process for investigating the root cause of problems and implementing effective corrective actions.

**0.6.11 Continuous Improvement**

Does Proponent employ any continuous improvement processes or other methods to monitor, evaluate and improve the quality of products and/or services provided? If so, briefly describe them. Include in your response details on the following:

- Processes to monitor and measure effects of continuous improvement changes.
- Processes for the evaluation and implementation of innovative and cost reduction ideas.

**0.6.12 Documentation / Records and Material Traceability**

Briefly describe the Proponent's records retention system and the normal records retained (or supplied to clients) as part of this product / service delivery. Proponent's response should make reference to quality records such as material test reports, non-destructive examination records, in process inspections and factory acceptance tests, certificates of compliance, checklists, etc.

**0.6.13 3rd Party Independent Certification / Verification**

Briefly describe Proponent's interaction with 3<sup>rd</sup> party independent certification/verification agencies (DnV, BV, LR, CSA, KEMA, etc.) in relation to the provision of products and/or services. Proponent's response should make reference to verification, validation, inspection and testing of products and services during design, manufacturing, supply, installation, termination and commissioning of HVDC cables.

**0.6.14 Training and Competency Management**

Briefly describe your training policy and any controls used to ensure personnel are competent to perform their defined functions and responsibilities.

**0.6.15 Customer Satisfaction**

Briefly describe any processes employed to monitor customer satisfaction and how these processes may be applied to the Proposal.

**0.6.16 Verification Audit**

As part of the evaluation process and prior to Agreement award, Proponent shall confirm that Company will be provided free and open access to Proponent’s facility(s) to effectively evaluate Proponent’s quality management system.

Confirmation of Proponent: \_\_\_\_\_

**0.6.17 References**

Please provide contact information for two client references and details of similar products or services provided.

- 1.
- 2.

**0.6.18 Acknowledgement**

The Proponent shall confirm that it has reviewed and if selected as Successful Proponent, it can comply with any quality assurance requirements outlined in this questionnaire that may be incorporated into the Agreement and that the responses to this questionnaire are true and accurate.

I hereby certify the responses to this questionnaire are true and correct.

Name: \_\_\_\_\_

Title: \_\_\_\_\_

## **SECTION 0.7**

### **HEALTH, SAFETY, SECURITY AND ENVIRONMENT (HSSE) MANAGEMENT QUESTIONNAIRE**

## **0.7 HEALTH SAFETY, SECURITY AND ENVIRONMENT (HSSE) MANAGEMENT QUESTIONNAIRE**

### **INTRODUCTION**

The HSSE Management Questionnaire must be completed and submitted as part of the Proposal. It will be evaluated by Company as part of Company's overall evaluation process.

Exhibit 1 of Part 2 – Scope of Work describes the scope of services. However, Exhibit 1 is not a stand-alone description of the Company's requirements as set forth in this RFP. The entire Agreement contains Proponent's obligations and must be considered by Proponent in completing the HSSE Management Questionnaire.

Questionnaire responses shall be presented in the same order, numbering system and format as presented in this questionnaire. Responses can be provided in the spaces provided herein if desirable.

Some of the information requested in this questionnaire might be repetitive to information requested in other sections of this RFP. It is important that Proponent's response to this questionnaire be complete. Accordingly, if necessary, Proponent should repeat any such information.

Where applicable, information provided in the HSSE Management Questionnaire will form part of the Agreement.

Do not include manuals and procedures with the questionnaire responses unless specifically requested.

### **0.7.1 Management Involvement, Leadership and Administration**

- a) Does Proponent have a registered safety management system? (e.g. OHSAS 18001:2007 or CSA 1000-06).
- b) If "YES" please provide a copy of your OHSAS 18001:2007 or CSA 1000-06 or equivalent standard.
- c) Please provide a copy of your safety policy.
- d) Please provide a copy of your table of contents in your OHS safety manual.
- e) Please provide a copy of your corporate safety organizational chart.
- f) Does management participate in formal HSSE inspections at their facility? How often?

### **0.7.2 Hazard Identification and Risk Control**

- a) Does Proponent conduct formal risk assessments when planning and implementing operations/activities?
- b) Provide details of risk management system, including risk tolerance levels and criteria used for assessing probabilities and consequences.
- c) Has a formal hazard observation (behavioral based) program been implemented at Proponent worksite, such as the DuPont STOP card system or equivalent?

### **0.7.3 Organizational Rules & Work Procedures**

- a) Does Proponent have an alcohol and drug policy/program that complies with Canadian legal requirements? Please specify and provide a copy.
- b) Does Proponent have documented standard operating practices/procedures for all jobs/work activities?
- c) Does Proponent have a safe work permit (SWP) system to control all hazardous and non-routine activities and operations? Is there a lock-out tag-out system built within the SWP? Please specify.
- d) Prior to mechanical lifting equipment being used or operated, is a checklist or logbook used to ensure the safe start and use of the equipment?
- e) Does your emergency response plan (ERP) conform to a recognized standard such as CSA Z731 (*Emergency Planning for Industry*) or equivalent?

### **0.7.4 Employee Knowledge, Training, Orientation and Competency**

- a) Does Proponent have a training and competency assurance program?
- b) Does Proponent have a formal safety orientation program?
- c) Does Proponent provide HSSE training to their supervisors?
- d) What frequency is HSSE training provided to your workforce?
- e) Is the Proponent training and competency assurance conducted in-house or by a 3<sup>rd</sup> party training company?
- f) Does the Proponent review critical tasks and procedures in conjunction with task observation reports to identify employee training needs & competency assessments?
- g) Do HSSE advisors/coordinators receive formal incident investigation training? What program is used?

### **0.7.5 Personal Communications/HSSE Meetings**

- a) Are personal communications conducted to impart knowledge and skill with other workers and thereby reducing the likelihood of incidents?
- b) Does Proponent have a system for intra-company sharing of best practices and procedures, incidents and other information?
- c) Is there an OH&S committee in place?

- d) Are safety meetings held and what is the frequency?
- e) Does Proponent respond in writing to safety concerns raised at safety meetings?

#### **0.7.6 Incident Reporting & Investigation**

- a) Has Proponent developed a company specific procedure for the reporting and investigation of incidents that occur at their facility or worksite?
- b) Does Proponent use an accident/incident (A/I) investigation process similar to “TapRoot” or equivalent?
- c) Are Proponent supervisors formally trained in A/I investigations?
- d) Is there a formal incident notification process in place? If yes, please specify.

#### **0.7.7 Accident Incident Analysis**

- a) Does Proponent have a formal system for the collection, analysis, trending and evaluation of incident data and statistical analysis?
- b) Does Proponent develop monthly incident analysis reports, and if so, are such reports reviewed during the management review meetings?
- c) Does Proponent senior management review and comment on serious and significant accidents/incidents?
- d) Are all accident/incident reports followed through from recommendations to completion and closure?

#### **0.7.8 Leadership Training**

- a) Does management receive formal HSSE training which provides a thorough understanding of the philosophies and principles behind modern HSSE management?
- b) Does management receive an orientation to the company HSSE management system that includes an introduction to individual accountabilities and responsibilities?

#### **0.7.9 Personal Protective Equipment (PPE)**

- a) Are the requirements for personal protective equipment identified on an ongoing basis by Proponent supervisors?
- b) Do supervisors ensure that proper protective equipment is available and utilized in accordance with appropriate legislation?
- c) Are workers trained in the use of proper personal protective equipment (PPE) when using hazardous and controlled products?

### 0.7.10 Physical Security

- a) Identify, outline and submit plans relative to the physical security during the engineering, procurement and construction phases of the project. Plans are to be complete and accurate representing the overall operation of security including, but not limited to; access control, closed circuit television, intrusion detection, physical security perimeter, fences, doors, locks, secure storage, tool, inventory, equipment control, vehicle check points, lighting, guest and visitor access, contractor access, site accessibility ,identification protocol, monitoring, guard patrol and duties, monitoring and marine security regulations, and other compliance regulations, laws, acts, or legislation, or as required by law.

### 0.7.11 Environmental

- a) Does Proponent have an environmental program in place? Please provide a copy of the environmental policy pursuant to such program.
- b) Please provide copies of the environmental management system annual management review reports for the past three (3) years.
- c) Does your environmental program conform to a recognized standard such as ISO 14001 or equivalent? Please provide a copy of your ISO 14001 standard or equivalent standard.
- d) Are there environmental performance targets developed and reviewed on a regular basis? Please explain what is typically measured.
- e) Has a formal system including the use of audits and inspections been developed to achieve the following?
  - define responsibilities for verifying that environmental performance objectives are met
  - determine causes for any failure to meet those objectives
  - identify remedial actions and verify their completion
  - communicate results of this process to relevant personnel in a timely manner
  - provide a system for continuous improvement
- f) Where potential health hazards have been identified, is qualitative and/or quantitative risk analysis conducted to identify hazards that should be subjected to quantitative occupational hygiene assessments?
- g) Does Proponent ensure that documentation is in place which identifies required environmental compliance reporting and clearly defines areas of responsibility?

### 0.7.12 Planned Safety Audits/Inspections & Preventative Maintenance

- a) Is there a documented process for performing planned safety audits?
- b) Has a formal process been developed to ensure routine safety inspections?
- c) Does Proponent have in place a planned preventive maintenance system to prevent safety issues with equipment?

- d) Are written reporting, distribution and follow up procedures for ensuring that remedial actions are carried out in a timely manner?
- e) Is there a requirement for the reporting of hazardous conditions and/or damaged equipment to appropriate personnel?

#### **0.7.13 Critical Operations & Task Analysis**

- a) Has a systematic approach been developed to identify and inventory all critical tasks based on mandatory rules, regulations and applicable codes, guidelines and standards?
- b) Is there a formal process to assess the risk associated with critical tasks and mitigate the risk to an acceptable level?
- c) Are tool box talks or pre-job safety analysis completed before activities are undertaken?

#### **0.7.14 Emergency Response**

- a) Has an emergency response plan (ERP) been developed reviewed and updated for their facility?
- b) Does the emergency response plan outline responsibilities, available resources, and actions to be taken in the event of an emergency?
- c) Are periodic exercises and simulations carried out to highlight deficiencies for correction, train ERP personnel to their roles and responsibilities and to mitigate further loss for early business resumption?

#### **0.7.15 Systems Review and Evaluation**

- a) Does senior management conduct regular reviews of HSE management systems at least annually or at more frequent intervals, as the organization may deem necessary?
- b) Do these reviews include HSE management policies and procedures and other inputs such as the results and recommendations from HSE audits, inspections and surveys and analysis of accident and incident investigations?
- c) Does senior management develop formal action plans to manage review findings, conclusions and recommendations and maintain records to evidence satisfactory implementation?

#### **0.7.16 Safety Meetings**

- a) Are regular (minimum monthly) HSE meetings held at all facilities to maintain effective communication of HSE information throughout the organization and its contractors?
- b) Are minutes and records of attendance of these meeting maintained?



**0.7.17 Statistics**

Proposal shall include the following statistics for Proponent and Proponent's major Suppliers and Sub-contractors for the past five (5) years:

- a) Safety:
  - Number of first aid incidents
  - Number of medical aid incidents
  - Number of lost time incidents
  - Number of fatalities
- b) Employment:
 

Number of work hours and number of employees.
- c) Workers Compensation:
 

"Workers Compensation Board" or "Workplace Health, Safety Compensation Commission", or equivalent, assessment for the past three (3) years.  
Proponent Environmental incident/performance statistics in the past five (5) years.
- d) Number of Spills/hazardous waste to the environment.

**0.7.18 Marine Vessels**

Proponent shall provide a history of the marine vessels to be used in the execution of work.

**0.7.19 Audit Agreement**

To ensure compliance I agree to Company conducting an HSSE audit of the Proponent.

**0.7.20 Acknowledgement**

I hereby certify that I have reviewed and can comply with the health and safety requirements outlined in the Agreement and that the responses to these questions are true and correct.

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**SUBMARINE CABLE DESIGN, SUPPLY AND INSTALL AGREEMENT  
CABOT STRAIT**

**BETWEEN**

**ENL MARITIME LINK INC.**

**- AND -**

**[INSERT CONTRACTOR NAME]**

**Contract No. E11 - 18**

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**THIS AGREEMENT MADE** as of \_\_\_\_\_, 2012

**BETWEEN:**

**ENL MARITIME LINK INC.** a body corporate constituted pursuant to the laws of the Province of Newfoundland and Labrador (hereinafter referred to as "Company")

- and -

**[●]** a corporation duly incorporated pursuant to the laws of **[●]** (hereinafter called "Contractor").

**WHEREAS**, Company desires the performance of certain Work described in this Agreement;

**WHEREAS**, Contractor is engaged in the business of performing such Work and will provide equipment and personnel to perform the Work;

**WHEREAS** Company and Contractor wish to set out the terms and conditions on which Contractor shall carry out the Work;

**NOW THEREFORE**, the Parties, each in consideration of the promises and agreements of the other, hereby agree as follows:

**Article 1  
GENERAL PROVISIONS**

1.1 Exhibits

The following Exhibits are attached hereto and shall form and be read and construed as an integral part of this Agreement:

<b>Exhibit</b>	<b>Description</b>
1	Scope of Work
2	Compensation
3	Subcontractors
4	Coordination Procedures
5	Company Supplied Items
6	Company Supplied Document Listing
7	Deliverables List
8	Nova Scotia and Newfoundland & Labrador Benefits Statement
9	Performance Security
10	Declaration of Residency
11	Milestone Schedule
12	Contractor's Facilities

The terms and provisions of the Exhibits are subject to amendment pursuant to Article 26.

## 1.2 Definitions

For the purpose of this Agreement, except as is otherwise expressly provided herein or unless the context otherwise requires, the terms defined in this Article shall have the meanings assigned to them in this Article.

- (a) “Affiliate” or “Affiliate(s)” has the meaning given to affiliate in the Canada Business Corporation Act, R.S.C.1985.
- (b) “Agreement” means this document, including the Exhibits as referenced in Article 1.1, originally executed or as they may from time to time be supplemented, amended, revised or otherwise modified in accordance with the applicable provisions hereof.
- (c) “Applicable Laws” means any laws, statutes, regulations, standards, codes, orders, directives or other rules enacted or issued from time to time by any governmental or regulatory body or other duly constituted public authority (whether legislative, administrative or executive) having jurisdiction over Contractor or Company or the activities carried out under this Agreement, including safety, occupational health, customs and excise, taxation, workers compensation, labour and environmental protection laws, statutes, regulations, standards, codes, orders, directives and other rules.
- (d) “Approval” means express concurrence in writing and “Approve” and “Approved” shall be construed accordingly.
- (e) “Authority” means any:
  - (i) government or government department or agency;
  - (ii) municipality, local government authority or council;
  - (iii) other statutory authority;
  - (iv) fiscal or judicial body, commission, board, tribunal or agency; or
  - (v) other regulatory person or body;
 (excluding the Company) having jurisdiction or authority in any way over Contractor or Company or the subject matter of the Agreement, including a right to impose a requirement or whose consent is required with respect to the Project or the Work.
- (f) “Billing Information” has the meaning ascribed thereto in Article 12.2.
- (g) “Business Day” means a day that is not a Saturday, Sunday or any other day which is a statutory holiday in the place where an action is to be performed or a payment is to be made.
- (h) “CAST” means Cabot Strait.
- (i) “Change” means any of the following:

- (i) An addition to the Work;
- (ii) An increase or decrease in the quantity of the Work;
- (iii) A deletion of any part of the Work;
- (iv) A revision or modification to any part of the Work already completed;
- (v) A modification or variation in the character or quality of the Work;
- (vi) A variation to the schedule for the completion of a Milestone;
- (vii) A modification in, variation to or deviation from the requirements set out in Exhibit 1 – Scope of Work;

but for greater certainty, a Change shall not include:

- (viii) modifications, revisions or deviations to the requirements of the Agreement that are necessary to make the Work satisfy the performance requirements set out in Exhibit 1 – Scope of Work;
  - (ix) any items that can reasonably be inferred as being included in the Work, including the advancement and development of the design of any element of the Work within the Contactor’s responsibility under the Agreement;
  - (x) modifications, revisions or deviations to the requirements of Exhibit 1 – Scope of Work or any additional services that are requested by Company that are necessary because of delays attributable to the Contractor Group;
  - (xi) any additional services that are required because of a breach of any Contractor’s warranty or representation set out in this Agreement; and
  - (xii) the supply of any services, materials or equipment required to rectify any defects or deficiencies in the Work.
- (j) “Change Order” means an order or directive for a Change issued in the form set out in Exhibit 4 – Coordination Procedures, Attachment 10-2, and signed by Company.
  - (k) “Change Request” means a request for a Change issued in the form set out in Exhibit 4 – Coordination Procedures, Attachment 10-1.
  - (l) “Claim” has the meaning ascribed thereto in Article 21.3.

- (m) “Company Group” means collectively Company and Company’s Other Contractors, and their respective Affiliates and Personnel of each of the foregoing.
- (n) “Company's Other Contractors” means all contractors and subcontractors of Company or its Affiliates, including all of their contractors and consultants (including any marine surveyor, warranty surveyor, and inspectors) except Contractor and Subcontractors.
- (o) “Company Representative” means the person or persons designated in accordance with Article 10.2.
- (p) “Company Supplied Document Listing” means those documents listed in Exhibit 6 – Company Supplied Document Listing, together with such other documents to be provided by Company as shall be designated by Company in writing from time to time.
- (q) “Completion Certificate” means the certificate to be issued by Contractor for Company Approval in accordance with Article 24.5.
- (r) “Company Supplied Items” means those items to be provided by the Company which are listed in Exhibit 5 – Company Supplied Items.
- (s) “Confidential Information” has the meaning ascribed thereto in Article 28.1.
- (t) “Contractor Group” means Contractor and Subcontractors (including Contractor's Subcontractors of every tier) and its and their respective Affiliates and the respective Personnel of each of the foregoing.
- (u) “Contractor's Items” means all machinery, systems, fittings, parts, spare parts, apparatus, tools, materials, supplies and any other equipment, material or items which are necessary to conduct the Work to be supplied by Contractor Group at their cost, and includes Contractor’s Spread.
- (v) “Contractor's Personnel” means the Personnel to be provided by Contractor Group from time to time to conduct the Work hereunder.
- (w) “Contractor’s Proprietary Information” means information of a scientific or technical nature, including patented inventions, designs or trade secrets which Contractor employs in the course of performing the Work and is not otherwise required to be disclosed or delivered in accordance with other provisions in this Agreement.
- (x) “Contractor’s Representative” is the person nominated in accordance with Article 5.6.



- (y) “Contractor’s Spread” means the collection of marine vessels, personnel, equipment, materials, consumables and supplies provided by Contractor for performing any waterborne component of the Work.
- (z) “Control Schedule” has the meaning ascribed thereto in Section 8.1 of Exhibit 4 – Coordination Procedures.
- (aa) “Court” means a court of competent jurisdiction and includes the Supreme Court of Canada.
- (bb) “Defects” has the meaning ascribed thereto in Article 17.2(a).
- (cc) “Deliver, Delivered or Delivery” means that point in time at which Contractor provides and Company takes physical possession of the Work (or any part), in accordance with Article 24.
- (dd) “Deliverables” means without limitation, Contractor’s design, engineering, procurement, fabrication, construction, testing, transport, delivery, maintenance, storage, preservation, installation, pre-commissioning, commissioning, repair and remediation of the Work as necessary for the Delivery of the Work to be provided by Contractor pursuant to the terms of this Agreement.
- (ee) “Dispute” has the meaning ascribed thereto in Article 39.1.
- (ff) “Drawings” means all detailed design drawings prepared by Contractor Group and such other drawings as may from time to time be required for performance of the Work.
- (gg) “Effective Date” means **[Insert Date]**.
- (hh) “Exhibits” means the Exhibits forming part of this Agreement and identified in Article 1.1.
- (ii) “Final Completion Certificate” has the meaning ascribed thereto in Article 25.1.
- (jj) “Force Majeure” has the meaning ascribed thereto in Article 31.1.
- (kk) “Guarantee” has the meaning ascribed thereto in Article 7.1.
- (ll) “Guarantor” has the meaning ascribed thereto in Article 7.1.
- (mm) “HSE” has the meaning ascribed thereto in Article 15.2.
- (nn) “HST” means the tax exigible pursuant to Part IX of the *Excise Tax Act* (Canada), including, for greater certainty, the taxes commonly referred to as the goods and services tax (GST) and the harmonized sales tax (HST).

- (oo) “Letter of Credit” has the meaning given to such term in Article 7.5.
- (pp) “Marine Warranty Surveyor” means the Person retained to perform the services described in Article 17.12 and Exhibit 1 – Scope of Work.
- (qq) “Maritime Link Project” means the design, manufacture, supply, delivery, installation and commissioning of a [●] MW, [●] kV HVdc system to transmit energy between Bottom Brook Newfoundland and Woodbine, Nova Scotia including HVdc overland lines, submarine cables, converter stations, protections and control systems and all additional, components, facilities and elements required to integrate the HVdc system into the power systems in Nova Scotia and Newfoundland.
- (rr) “Mechanical Delay” means delay caused by equipment or mechanical failure and includes, but is not limited to, delays caused by winch failure, electrical failure and mechanical failure in an engine room, major failure due to defective material, failure due to lack of preventive maintenance and delay associated with technical work on Contractor’s Items where such work extends beyond normally accepted preventative maintenance routines.
- (ss) “Milestone” has the meaning ascribed thereto in Section 8.1 of Exhibit 4 – Coordination Procedures
- (tt) “Milestone Completion Certificate” means the certificate described in Article 12.3(a).
- (uu) “Milestone Schedule” means the schedule for performance of the Work (or any part) as set out in Exhibit 11 – Milestone Schedule, as the same may be amended from time to time by agreement of the Parties or otherwise in accordance with the provisions of the Agreement.
- (vv) “MLP” means Maritime Link Project.
- (ww) “Non-conformity” has the meaning ascribed thereto in Section 5.5 of Exhibit 4 – Coordination Procedures, and includes “Non-conformance”.
- (xx) “Notice” means a written communication that is required to be delivered in accordance with Article 35.
- (yy) “Party” means Company or Contractor, as the context requires, and "Parties" means Company and Contractor collectively.
- (zz) “Performance Bond” has the meaning given to such term in Article 7.3.
- (aaa) “Person” means an individual, a partnership, a corporation, a trust, an unincorporated organization, a union, a government or any department or agency thereof and the heirs, executors, administrators, successors, assigns or

other legal representatives of an individual, and words importing persons have a similar meaning.

- (bbb) “Personnel” means the directors, officers, employees, consultants, non-employed representatives and agents of a Person.
- (ccc) “Price” means the sum of money specified in the Agreement, as the same may be adjusted from time to time by agreement between the Parties or in accordance with the terms of the Agreement, being the consideration for the satisfactory performance of the Work by Contractor in accordance with the Agreement and as specified in Exhibit 2 - Compensation.
- (ddd) “Privacy Law” means applicable federal or provincial laws relating to the privacy, confidentiality or use of any information about individuals.
- (eee) “Project” means the one or more discrete components of the overall MLP, as described in Exhibit 1 – Scope of Work.
- (fff) “Project Manager” means the person appointed by Company in accordance with Article 10.5.
- (ggg) “Schedule Development and Control Plan” and “SDCP” means the meaning ascribed thereto in Section 8.1(f) of Exhibit 4 – Coordination Procedures.
- (hhh) “Standard of Prudent Contractor” means good faith performance of contractual obligations and exercising that degree of care, skill, diligence, prudence, workmanship and foresight expected from a skilled and experienced contractor engaged in the same type of undertaking, in similar circumstances or conditions and in compliance with all Applicable Laws and to the satisfaction of Authorities.
- (iii) “Subcontract” means an agreement (including any supplement or amendment) entered into between Contractor and any Person in the manner and to the extent permitted under the terms of the Agreement by which Contractor engages such Person to perform any part of the Work.
- (jjj) “Subcontractor” means any Person engaged by Contractor to perform any part of the Work pursuant to a Subcontract, and shall include the successors and permitted assigns of any such Person.
- (kkk) “Summary Schedule” and “SS” means the schedule described in Section 8.1(e) of Exhibit 4 – Coordination Procedures.
- (III) “Suspension Expenses” has the meaning ascribed thereto in Article 34.2.
- (mmm) “Suspension Period” has the meaning ascribed thereto in Article 34.1.
- (nnn) “Tax” or “Taxes” means any tax, fee, levy, rental, duty, charge, royalty or similar charge including, for greater certainty, any federal, state, provincial, municipal,

local, aboriginal, foreign or any other assessment, governmental charge, imposition or tariff wherever imposed, assessed or collected, and whether based on or measured by gross receipts, income, profits, sales, use and occupation or otherwise, and including, without limitation, any income tax, capital gains tax, payroll tax, fuel tax, capital tax, goods and services tax, harmonized sales tax, value added tax, sales tax, withholding tax, property tax, ad valorem tax, transfer tax, franchise tax, payroll tax or excise tax, together with all interest, penalties, fines or additions imposed, assessed or collected with respect to any such amounts.

- (ooo) “Term” has the meaning ascribed thereto in Article 11.1.
- (ppp) “Warranty” means the Contractor’s obligations set out in Article 17.
- (qqq) “Warranty Period” has the meaning ascribed thereto in Article 17.1.
- (rrr) “Warranty Work” has the meaning ascribed thereto in Article 17.4.
- (sss) “Weather Delay” means an occurrence whereby offshore operations are prevented from being performed due to weather or sea state exceeding the environmental operating limits of the Contractor’s Spread as set out in Exhibit 12 – Contractor’s Facilities.
- (ttt) “Work” means all design, engineering, labour, services and obligations to be performed and materials, equipment and other work product to be supplied by Contractor under the terms of this Agreement, as more particularly described in Article 3 and Exhibit 1 – Scope of Work, including Changes and the provision of all Personnel, equipment, supplies, facilities, documentation, records and other items necessary to the performance of such services and obligations.
- (uuu) “Workscope Quality Plan” means a high level description of Contractor’s engineering, manufacturing, fabrication, installation, and/or service delivery process(es) which includes Contractor’s verification activities for the product or service being offered. Company uses this document to assist in defining and planning requirements for participation in or execution of verification activities. Workscope Quality Plan includes all process activities from a defined start point to a defined end point, and encompasses all activities within the Work.
- (vvv) “Worksite” means any lands, waters and any other places on, under, in or through which the Work is to be performed, including without limitation design offices, workshops, onshore facilities, shipyards, floating construction equipment, vessels and places where Contractor Items are obtained, stored or used for the purposes of this Agreement.

1.3 The doctrine of *contra proferentem* shall not apply in the interpretation of this Agreement, meaning that if there is any ambiguous language in this Agreement it shall

not be interpreted more strongly against the Party who prepared or drafted the ambiguous language.

- 1.4 Reference to any Party includes that Party's executors, administrators, substitutes (including, but not limited to, persons taking by novation), successors and permitted assigns.
- 1.5 If an action pertaining to the administration of this Agreement, Notices or Disputes is required to be completed on a specified day which is not a Business Day, then the action shall be completed instead on the next Business Day.
- 1.6 Whenever in this Agreement the singular member or a masculine gender occurs the same shall be respectively construed as the plural, feminine or neuter and vice versa as the context or reference may require. Where a word is defined in this Agreement, a derivative of that word shall have a corresponding meaning.
- 1.7 Unless the context otherwise requires, reference to any Article is a reference to an Article or paragraph in this Agreement, and any reference to a Section is a reference to a Section or paragraph in an Exhibit.
- 1.8 The Article headings and any other headings or captions or indices hereto shall not be used in any way in construing or interpreting any provisions hereof.
- 1.9 The preamble hereto forms part of this Agreement and is incorporated herein.
- 1.10 The words "includes" and "including", whether or not used with the words "without limitation" or "but not limited to", shall not be construed to be limited by the specific enumeration of items but shall in all cases be without limitation and construed and interpreted to mean "includes without limitation" and "including without limitation".
- 1.11 Reference to any Act or legislation, or to a provision of an Act or legislation, is to the Act or legislation as amended and includes any statutory modification or re-enactment of it, a legislative provision substituted for it and any regulation, subordinate legislation or other statutory instrument issued under it.
- 1.12 The Exhibits hereto are incorporated herein by reference. If any provision in the Exhibits conflicts with a provision in the Articles of this Agreement, the provision in the Articles of this Agreement shall prevail. In the event that any provision in any of the Exhibits conflict with any other provision in the Exhibits, priority shall be given in the order listed as follows:
  - (a) Exhibit 1 - Scope of Work
  - (b) Exhibit 2 – Compensation
  - (c) Exhibit 4 - Coordination Procedures
  - (d) Exhibit 6 - Company Supplied Document Listing
  - (e) Exhibit 7 - Deliverables List

- (f) Exhibit 11 – Milestone Schedule
  - (g) the remaining Exhibits in their numerical order by Exhibit number except in respect of technical requirements, in which case the more stringent provision will prevail.
- 1.13 If the Standard of a Prudent Contractor conflicts with any other provision in this Agreement, the other provision in the Agreement shall prevail.
- 1.14 The language of this Agreement shall be English and all communications and dealings under and the resolution of any disputes concerning this Agreement shall be conducted in the English language. All information, data or documentation of any nature that Contractor prepares in the performance of the Work, is required to submit to Company or is requested by Company to submit, shall be prepared in English.
- 1.15 Any Approval by Company shall not waive Contractor’s obligations under Applicable Laws or as outlined in this Agreement.

**Article 2**  
**CONTRACTOR’S STATUS**

- 2.1 In the performance of this Agreement, Contractor is an independent contractor and neither Contractor nor Contractor's Personnel shall be employees of Company. Contractor's Personnel shall be under the direct supervision and control of Contractor and not of Company. Contractor accepts complete responsibility as the principal for Contractor's Personnel.
- 2.2 Contractor is not an agent of the Company or an agent of any Affiliate of the Company. Contractor shall not represent or hold itself out as an agent of the Company or an agent of any Affiliate of the Company.
- 2.3 This Agreement shall not constitute a joint venture or partnership of the Company and Contractor or of the Company and any Subcontractor.
- 2.4 Contractor acknowledges that it shall be carrying on business in the Provinces of Newfoundland and Labrador and Nova Scotia during the performance of the Work and agrees to comply with the registration and other relevant provisions of the *Corporations Act*, RSNL, c. C-36, as amended and the *Companies Act*, R.S., c. 81, s. 1, as amended.

**Article 3**  
**CONTRACTOR OBLIGATIONS, REPRESENTATIONS AND WARRANTIES**

- 3.1 Contractor shall carry out all of its obligations under this Agreement and shall perform the Work, which shall include all work required for the design, engineering, procurement, fabrication, construction, testing, transport, delivery, maintenance, storage, preservation, installation, pre-commissioning, commissioning, repair and remediation of the Work including without limitation:
- (a) provision of all supervision, services, drafting, accounting, purchasing, expediting, inspection, testing, Personnel, Contractor’s Items, transportation,

mobilization and demobilization required for the compliance with and fulfillment of all Contractor's obligations under this Agreement;

- (b) ensuring the Work conforms strictly as to quality and description with the particulars stated in Exhibit 1 - Scope of Work and Company Supplied Document Listing and complies with all Applicable Laws;
  - (c) satisfies the performance requirements set out in Exhibit 1 – Scope of Work;
  - (d) provision of all Deliverables as required under, and in accordance with, the terms of this Agreement;
  - (e) provision of any work not expressly detailed in this Agreement or in Contractor's proposal, but which is necessary for the performance of the Work in accordance with the provisions of this Agreement;
  - (f) rectify any and all deficiencies as noted by Company or any Authority; and
  - (g) completing the Work, and portions thereof, in accordance with Exhibit 11- Milestone Schedule.
- 3.2 Contractor acknowledges that it has received, reviewed, understood and verified the details contained in the Exhibit 1 - Scope of Work, and Exhibit 6 - Company Supplied Document Listing and that it has a full knowledge and understanding of the nature and the scope of the Work, and including but not limited to all wave, sea state, seabed and soil conditions and all other conditions in the offshore Worksites. Contractor shall ensure the work it performs is sufficient to encompass all matters necessary for the proper and efficient fulfillment of Contractor's obligations hereunder. Without limitation, Contractor shall undertake the Work in accordance with Applicable Laws, Exhibit 1 - Scope of Work, Exhibit 6 - Company Supplied Document Listing and as required by any Authority.
- 3.3 Contractor shall perform the Work to the Standard of a Prudent Contractor and shall ensure that Subcontractors shall perform to the same standard. Any material failure or any refusal or inability of Contractor to comply with the foregoing requirements shall constitute a breach of the terms and conditions of this Agreement. Contractor shall be solely responsible for any operations comprising the Work performed by Contractor Group.
- 3.4 Subject to Article 10.4, Contractor shall obtain and maintain all directions, guidelines, permits, certificates, authorizations, dispensations and licences of any type whatsoever necessary for the performance of the Work and shall comply with all Applicable Laws. Contractor shall promptly notify Company in writing upon any discovery of a failure to adhere to the foregoing requirements in connection with the performance of the Work hereunder and shall defend, indemnify and hold Company Group harmless from and against all fines and penalties, as well as costs, expenses, rates and charges of

Contractor Group and third parties, resulting from the failure of Contractor Group to comply with the foregoing requirements.

- 3.5 Contractor shall assist Company and provide necessary information and documents to support Company fulfilling Company's obligations set out in Article 10.4.
- 3.6 During the progress of the Work the Company will furnish to the Contractor such additional instructions to supplement the Agreement as the Company deems appropriate for the performance of the Work. Contractor shall comply with all instructions of Company pertaining to the performance of the Work, as communicated through the Project Manager, Company Representative or otherwise in accordance with this Agreement. The absence of instructions from Company shall not permit Contractor to avoid its duty to perform any obligations hereunder. If Contractor fails to comply immediately with an instruction, then Company may at Contractor's risk and cost take whatever measures Company considers necessary to implement the instruction. Contractor shall maintain full responsibility for the adequacy, stability and safety of the Work and the Worksite operations under its control and of all means, methods and techniques of construction and of all of the Work and Company's instructions hereunder shall not derogate or detract from such responsibility.
- 3.7 Contractor shall cooperate with Company's Other Contractors and Company Personnel working at the Worksites with a view to reducing interference with Company's Other Contractors and Company Personnel or with the operations of Company.
- 3.8 Contractor shall at all times promptly take all steps necessary to maintain good labour relations with Contractor Personnel to the extent that such requirement is consistent with sound business practice in accordance with the Standard of a Prudent Contractor. Subject to Article 31.1(c), the existence of any labour disturbance relating to Contractor Personnel shall not relieve Contractor of its obligations hereunder.
- 3.9 Contractor shall transfer all unused excess finished materials, if any, to Company at the completion of the Work or, at Company's option, shall be sold by Contractor and any amounts realized from such sales shall be credited to Company as a deduction from the Price.
- 3.10 Contractor represents and warrants that during the Term of this Agreement:
- (a) it has the required skills, experience, facilities, equipment and capacity to perform the Work in a timely manner and in accordance with the terms of this Agreement, the Standard of Prudent Contractor and sound industry accepted practices;
  - (b) it has knowledge of all of the legal requirements and business practices which must be followed in performing the Work;
  - (c) all Contractor's Personnel involved in carrying out any of the Work have the qualifications, training and experience, and hold such valid licences and



certificates of competence, as are required to carry out their duties in relation to the Work (including visas and work permits);

- (d) each of Contractor's Items is of good quality, in good working condition, is in compliance with all Applicable Laws and is fit for its intended use as contemplated in this Agreement;
- (e) the making and performance of this Agreement are within its powers, have been duly authorized by all necessary action and do not and will not violate any Applicable Law or any provision of its governing documents.

3.11 Contractor covenants that during the Term of this Agreement it:

- (a) shall perform the Work in a diligent, safe, efficient and timely manner and in accordance with the Standard of a Prudent Contractor;
- (b) shall perform the Work continuously and in accordance with this Agreement, using only Contractor's Personnel and Subcontractors Approved by Company;
- (c) shall use quality assurance programs in performing the Work which comply with all Applicable Laws and industry accepted practices;
- (d) shall take all steps necessary to maintain good labour relations with Contractor's Personnel to the extent that such requirement is consistent with sound business practice;
- (e) shall, on a timely basis, comply with all instructions of Company consistent with the provisions of this Agreement, including safety instructions;
- (f) shall, to enable Company to satisfy itself that Contractor is complying with the terms of this Agreement, provide such reports, records, and other information relating to the performance of the Work as Company may request from time to time, including copies of the credentials of Contractor's Personnel and Subcontractors and information relating to quality assurance programs, and permit Company to inspect Contractor's Items and Worksites;
- (g) shall obtain for the benefit of Company all available exemptions and/or refunds from Taxes; and
- (h) shall implement and maintain a cost effectiveness program ensuring all techniques proposed for the performance of the Work are or have been reviewed to ensure that they are cost effective.

3.12 Contractor warrants and acknowledges that it has reviewed and understands the Applicable Laws and Nova Scotia and Newfoundland and Labrador Benefits strategy governing the use of personnel, goods and services in the Work. Contractor shall, throughout the term of this Agreement, take such action as Company may specify to enable Company to comply with all Applicable Laws, including, without restricting the

generality of the foregoing, Applicable Laws regarding the use of Canadian and Newfoundland and Labrador and Nova Scotia personnel, goods and services and these requirements set forth in Exhibit 8 – Nova Scotia and Newfoundland & Labrador Benefits, as applicable. Where Contractor is permitted to subcontract, Contractor shall ensure that Subcontractors comply with such requirements. At Company's sole discretion, Contractor shall provide reports regarding the use of Canadian and Newfoundland and Labrador and Nova Scotia personnel, goods and services in the frequency, manner and format prescribed by Company throughout the term of this Agreement.

- 3.13 Contractor shall take such action as Company may specify to enable Company to comply with all Applicable Laws to be complied with by Company, and in particular, Applicable Laws governing the use of local personnel, goods and services which are in effect or which may come into effect during the Term.
- 3.14 Contractor agrees that all of its representations, warranties and covenants contained in this Agreement are and shall be deemed to be material and shall be conditions of this Agreement.

#### **Article 4 CONTRACTOR'S ITEMS**

- 4.1 Contractor shall, maintain, at its sole risk, cost and expense, all Contractor's Items throughout the Term in the manner necessary to ensure that the representations and warranties in Article 3.10 shall be true and accurate at all times during the Term. If any of Contractor's Items do not at any time conform to the representations and warranties given in Article 3.10, Contractor shall, at Contractor's sole expense, repair such Contractor's Items or replace them with items which conform in all respects to such representations and warranties.
- 4.2 Contractor shall undertake best efforts to minimize durations associated with technical work on Contractor's Items. In the event that Contractor does not use such best efforts, time associated with such work will constitute Mechanical Delay.
- 4.3 Contractor represents and warrants that critical spares will be readily available on the Contractor's Spread for replacement as required during the execution of the Work. Contractor represents and warrants that for any equipment or tools not on the installation vessel, critical spares will be made readily available in Newfoundland and Labrador or Nova Scotia, as determined by the Work location.
- 4.4 Contractor shall not substitute vessels in the Contractor's Spread without prior Approval from Company.
- 4.5 Contractor shall be responsible, at its cost, for maintaining such inventories of Contractor's Items as necessary so as to avoid interruptions in the performance of the Work.

**Article 5**  
**CONTRACTOR'S PERSONNEL**

- 5.1 Contractor shall select Contractor's Personnel and have them available at the place specified in Exhibit 1 – Scope of Work or at another mutually agreed place, ready to perform the Work. Where Contractor's Personnel do not report to the designated place on the date specified, Company shall not be obligated to pay any costs for mobilization, demobilization, time, equipment or other Contractor incurred expenses associated with the related Contractor Personnel.
- 5.2 During the Term, Contractor shall furnish and procure the numbers and classifications of Contractor's Personnel required to perform the Work. In the event Contractor fails to provide the numbers or classifications of Contractor's Personnel required in respect of the Work, Company may, at Contractor's sole expense, retain other contractors and deduct the costs associated with retaining such other contractors from the applicable compensation payable by Company to Contractor for the period such positions remain unfilled by Contractor. In such circumstances, Contractor shall assume, indemnify and save Company harmless for all liabilities associated with the retention of such other contractors.
- 5.3 Contractor shall ensure that throughout the Term each of Contractor's Personnel has the qualifications, training and experience, and holds the licences and certifications necessary to carry out assigned duties in the performance of the Work. Contractor shall ensure that Contractor's Personnel who are engaged offshore in the performance of the Work have received the required training, including appropriate offshore safety training. Contractor shall furnish records of competence for all of Contractor's Personnel when requested so to do by Company.
- 5.4 Contractor shall immediately remove and/or replace, at Contractor's own expense, any of Contractor's Personnel if, in the sole judgment of Company, any of Contractor's Personnel:
- (a) cease to carry out his or her duties in a manner satisfactory to Company or engages in misconduct, unsafe activities, or is incompetent or negligent;
  - (b) is certified by a medical practitioner as being medically unfit for the duties required of him; or
  - (c) risk impairing his or her usefulness in the performance of his or her duties through the use of alcohol or drugs.
- 5.5 Unless otherwise Approved by Company, Contractor shall replace, at Contractor's own expense, any of Contractor's Personnel who is transferred or dismissed by Contractor or any Subcontractor, or leaves Contractor's or Subcontractor's employ.
- 5.6 Contractor shall nominate in writing one of its Personnel as Contractor's Representative. The Contractor's Representative shall:

- (a) be in charge of the Contractor's Personnel and shall supervise Contractor's Personnel and maintain strict discipline in order to ensure the timely and efficient performance of the Work, and shall notify Company in writing of the occurrence of or threat of any labour dispute involving Contractor's Personnel;
  - (b) have full authority to act on behalf of and bind Contractor on all labour and Contractor's personnel issues which arise between Company and Contractor;
  - (c) in accordance with Exhibit 4 - Coordination Procedures, supervise the performance of the Work;
  - (d) have the authority to commit Contractor to any course of action within the bounds of its rights and obligations under this Agreement;
  - (e) be authorized to receive on behalf of Contractor any Notices, information or decisions of Company made pursuant to this Agreement.
- 5.7 Exhibit 4 - Coordination Procedures sets out certain of Contractor's Personnel who are of key importance to the performance of the Work. Contractor shall not change any such key Personnel without the prior Approval of Company. In the event any such key Personnel leave the service of Contractor, Contractor shall promptly use all commercially reasonable efforts to retain suitably trained and experienced replacement key Personnel. In such circumstances, Company shall have the right, which shall be reasonably exercised by Company, to Approve such key Personnel. Contractor shall not retain such replacement key Personnel on a permanent basis without first obtaining Company's Approval, which shall not be unreasonably withheld or delayed.
- 5.8 Contractor shall be responsible for, and shall defend, protect, release, indemnify and hold Company harmless from and against all Claims of any nature incurred by Company in connection with the payment of Contractor's Personnel, including all compensation, Taxes, medical costs, unemployment insurance premiums, Canada pension plan contributions and other benefits of whatever nature or as may be applicable in any jurisdiction (including any jurisdiction where the Work is performed or where the Personnel reside or are employed).

## **Article 6**

### **SUBCONTRACTS**

- 6.1 Subject to Articles 6.2 and 6.3, Contractor may employ Subcontractors to perform or support the performance of the Work or to furnish equipment to be provided by Contractor hereunder.
- 6.2 Contractor shall not subcontract the whole of the Work. Subject to Article 6.3, Contractor shall not subcontract or delegate the performance of any portion of the Work, or its obligations hereunder, without Company's Approval.

- 6.3 All Subcontractors are identified in Exhibit 3 - Subcontractors and Contractor shall not be entitled to replace or add one or more Subcontractors without the Approval of Company, which Approval shall not be unreasonably withheld.
- 6.4 Any subcontracting or delegations permitted under this Article 6 shall not relieve Contractor of any of its duties, obligations, warranties, liabilities or responsibilities under this Agreement. Contractor shall be responsible for the acts, defaults, omissions and acts of neglect of any Subcontractor or delegate and any of their respective Personnel.
- 6.5 Contractor shall oversee the performance of all Subcontractors and delegates and keep such records and accounts and furnish such reports and information relative to Subcontractors as Company may reasonably request. No Subcontract shall bind or purport to bind Company. All Subcontracts shall contain:
- (a) a clear statement that Contractor is entering into such Subcontracts as principal and not as agent for any other Person; and
  - (b) a provision permitting the assignment thereof to Company at Company's option without consent of a Party or any other Person.
- 6.6 Contractor shall be responsible for the acts, omissions and negligence of any delegate and any Subcontractors and any of their respective Personnel as fully as if they were the acts, omissions or negligence of Contractor's own Personnel.
- 6.7 Contractor shall ensure that any provisions of this Agreement which are required to be included in its Subcontracts have been so included. Contractor shall preserve and protect the rights of Company under this Agreement with respect to the Work to be performed by any Subcontractors so that the subcontracting thereof shall not prejudice such rights.

## Article 7 PERFORMANCE SECURITY

- 7.1 On or before the Effective Date, Contractor shall provide Company with a guarantee duly executed by **[insert name of parent company or other creditworthy guarantor as Approved by the Company ("Guarantor").]** (the "Guarantee") and which is attached to and forms part of Exhibit 9 – Performance Security. The Contractor must provide evidence of the creditworthiness of the **[Guarantor]** that is acceptable to Company, in its sole discretion, including without limitation, evidence of the credit rating of the **[Guarantor]**. Credit rating means, for the purposes of this section 7.1, the rating assigned to an entity's unsecured, senior long term debt obligations (not supported by third party credit enhancements) or, if such entity does not have a credit rating for its senior, unsecured, long term debt, the rating then assigned to such entity as an issuer rating, in each case, by Standard & Poors, Moody's and/or any other ratings agency designated by the Company from time to time.

- 7.2 The Guarantee shall provide that **[Guarantor]** undertakes and guarantees that, if for any reason Contractor becomes unable or otherwise fails to carry out its obligations under this Agreement, **[Insert Guarantor Name]** shall provide such financial or other support as may be required to ensure that all Contractor's obligations under this Agreement continue to be fulfilled.
- 7.3 Company, in its sole discretion, may require Contractor to deliver on or before the Effective Date a performance bond to Company, Approved by Company in amount, form and substance, that complies with Article 7.4 (the "Performance Bond"). Contractor shall maintain any such Performance Bond at all times during the Term. Such Performance Bond shall be issued by a duly licensed surety company authorized to transact a business of suretyship in the place of the Work and shall be maintained in good standing until the fulfillment of the Agreement.
- 7.4 A Performance Bond, if required pursuant to Article 7.3, shall guarantee to Company, to the extent set out in the terms and conditions contained in Exhibit 9 – Performance Security and without limiting any other guarantees of performance that may be contained therein:
- (a) the punctual repayment to Company of any repayments to which Company may be entitled under this Agreement and any replacements therefore, extensions or renewals thereof or amendments thereto;
  - (b) the payment to Company of all losses, costs and expenses suffered or incurred by Company Group, or the payment of any liquidated damages due to Company, as a result of any default of Contractor hereunder; and
  - (c) payment in the event of notification by Company of any default in performance on the part of Contractor of any of Contractor's obligations under this Agreement.
- 7.5 Company, in its sole discretion, may require Contractor to deliver to Company a letter of credit as security for the proper performance of the Contractor's obligations under this Agreement, in the form and with the content specified in Exhibit 9 – Performance Security, equal to 15% of the Price or in such other form and with content Approved by the Company ("Letter of Credit"). Contractor shall maintain the Letter of Credit until total completion of the Work or such earlier time as Company may advise.
- 7.6 All costs and expenses incurred in relation to the establishment and maintenance of the Guarantee and such other forms of security that may be required under this Article 7 shall be for the account of Contractor.
- 7.7 Company may claim and have recourse to the Guarantee, Performance Bond or to the Letter of Credit, or any combination, if the Contractor has not performed its obligations in accordance with the Agreement or if the Company otherwise has a claim against the Contractor.

**Article 8**  
**POLICY ON ETHICS/CONFLICTS OF INTEREST**

- 8.1 Contractor, in performing its obligations under this Agreement, shall establish and maintain appropriate business standards, procedures and controls including those necessary to avoid any real or apparent impropriety or adverse impact on the interests of Company and its Affiliates. Company reserves the right to review such standards and procedures at any time during the Term.
- 8.2 Contractor agrees to perform the Work and to conduct its operations in a manner which is in accordance with all Applicable Laws, consistent with the highest of ethical standards and avoids any unlawful or unethical intervention in the political affairs of any country which Contractor agrees to cause all Subcontractors to adopt and enforce.
- 8.3 Contractor shall not pay any commission or fee, or grant any rebate or make any loan to any Personnel of Company or government official, or favour any Personnel of Company or government official with any gift or entertainment of significant value or enter into any business arrangement with any Personnel of Company or government official. Contractor agrees to cause all Subcontractors engaged in the performance of the Work to adopt and enforce the foregoing policy.

**Article 9**  
**COMPLIANCE WITH LAWS**

- 9.1 In performing the Work and carrying out the provisions of this Agreement, Contractor shall comply with all Applicable Laws.
- 9.2 Company may from time to time require Contractor to provide to Company, and Contractor shall promptly so provide, evidence acceptable to Company that Contractor has in all respects complied with the obligations set forth in Article 9.1.
- 9.3 Subject to Article 21.4, Contractor shall defend, protect, release, indemnify and hold Company harmless from and against all Claims whatsoever, whether direct or indirect, which may be brought against Company or which Company may sustain, pay or incur as a result of any failure by Contractor to comply with its obligations under Articles 9.1 and 9.2.

**Article 10**  
**COMPANY'S OBLIGATIONS**

- 10.1 Subject to the provisions of this Agreement, Company agrees to engage Contractor to perform the Work in accordance with the terms of this Agreement.
- 10.2 In accordance with Exhibit 4 - Coordination Procedures, Company may, from time to time, designate Company Representatives, both onshore and offshore, who shall at all times during the Term have access to the Contractor's Items and Worksites and may without limitation monitor the performance of the Work.
- 10.3 Company shall, without in any way relieving Contractor of any of its obligations under this Agreement, provide to Contractor such instructions and information, including

Exhibit 6 - Company Supplied Document Listing and technical data, which can only be provided by Company. Contractor acknowledges and agrees that Company makes no representations or warranties in relation to the fullness or accuracy of such instructions or information.

- 10.4 Company shall obtain all authorizations, permits and licenses required by Applicable Laws for the performance of the Work and which are required to be and can only be obtained in Company's name.
- 10.5 Company shall designate a Project Manager who shall have authority to act on behalf of Company, commit the Company regarding matters under the Agreement, receive Notices and perform such other duties and acts reserved to the Project Manager under this Agreement.
- 10.6 The Project Manager, by Notice to the Contractor, may delegate any of the Project Manager's authority to any nominated deputy. Such Notice shall specify the precise authority of such deputy.
- 10.7 The Company may change the Project Manager at any time at its sole discretion by Notice to Contractor.

#### **Article 11**

#### **TERM OF AGREEMENT**

- 11.1 This Agreement shall be effective from the Effective Date and shall remain in full force and effect until the Work is complete as evidenced by the issuance of the final Completion Certificate (the "**Term**"), unless earlier terminated in accordance with the terms of this Agreement.

#### **Article 12**

#### **COMPENSATION AND TERMS OF PAYMENT**

- 12.1 As full compensation for the performance by Contractor of all its obligations under this Agreement, Company shall pay Contractor the Price in accordance with the terms of this Article and Exhibit 2 - Compensation. Only those rates, prices and costs specifically identified in Exhibit 2 - Compensation shall be paid by Company and costs not identified in Exhibit 2 - Compensation shall be deemed to be included in such rates and prices.
- 12.2 (a) Within thirty (30) days of the Effective Date, Company shall provide Contractor with a pro forma invoice, which invoice shall set out all relevant Company cost codes and required information, and Contractor shall utilize said pro forma invoice and cost codes when billing Company.
- (b) Contractor shall be paid the portion of the Price applicable to a Milestone following Approval by Company of a Milestone Completion Certificate and in accordance with the provisions of this Article 12.
- (c) Upon Approval by Company of a Milestone Completion Certificate, Contractor shall submit an invoice in accordance with the requirements of this Article 12 and Exhibit 4 – Coordination Procedures to:



ENL Maritime Link Inc.  
 9 Austin Street  
 St. John's, NL A1B 4C1  
 Attention: Accounts Payable

- (d) Contractor shall provide, maintain and issue to Company on a Milestone basis, a detailed listing of the invoiced costs of the Work. Contractor shall develop and present a format and content for Company Approval. Contractor's invoices shall comply in all respects with Company's invoicing instructions as provided for in this Agreement, Exhibit 2 – Compensation and Exhibit 4 – Coordination Procedures. Invoices shall be accompanied by all relevant supporting documentation as Company may require to verify completion of the Work, the accuracy of the fees, charges and third party charges invoiced including, without limitation, copies of any relevant third party invoices, receipts, purchase orders and receiving reports and a summary page of all invoices, a copy of Company authorized time sheets complete with summary sheet cross referring to all backup information and all other documentation as Company may reasonably require. (All invoicing requirements, information and documentation described in this Article 12.2 shall hereinafter be referred to as the “Billing Information”). Company shall not be responsible for delays in payment due to Contractor not providing complete Billing Information.
- 12.3 (a) When Contractor considers that a Milestone has been completed and the criteria for completion of that particular Milestone have been achieved, it shall issue, for Company's Approval, a Milestone Completion Certificate in the form set forth in Exhibit 4 – Coordination Procedures (Attachment 11-2), together with all relevant supporting documentation as Company may reasonably require to verify, in the opinion of Company, the successful completion of the relevant Milestone criteria and achievement of the Milestone.
- (b) Upon receipt of a Milestone Completion Certificate Approved by Company, Contractor shall submit an invoice for the amount due as determined in accordance with Exhibit 2 - Compensation. The invoice shall be supported by the Approved Milestone Completion Certificate and all Billing Information as Company may reasonably require.
- 12.4 If any Change affects the Price, Contractor may issue an invoice for the Work completed pursuant to the applicable Change Order.
- (a) For Change Orders carried out on a lump sum basis, Contractor shall comply with the requirements outlined in Article 12.3.
- (b) For Change Orders carried out on a reimbursable basis, Contractor shall issue an invoice for that portion of the Change completed in the previous month, within ten (10) days following the end of each month. Invoices in respect of such Changes shall be accompanied by all Billing Information including, without limitation, an executed copy of the relevant Change Order, a copy of Company

authorized time sheets/vessel daily progress reports and any other information as Company may require to verify the progress, completion and associated charges pertaining to the Change. Billing Information should always comprise a summary sheet with cross referencing to all backup information which demonstrates a clear audit trail substantiating all charges presented on the invoice. The final invoice for reimbursable Changes shall also include any information as Company may reasonably require to verify the successful completion of the Change.

- 12.5 Should Contractor fail to comply with the requirements of Article 12.2 or Article 12.10, the Work shall be deemed incomplete and Company may withhold monies otherwise payable to Contractor and/or return invoices to Contractor for resubmission until such information has been provided to the satisfaction of Company.
- 12.6 Within thirty-five (35) days following Company's receipt of a properly prepared invoice, accompanied by acceptable Billing Information in accordance with Article 12.2, Company shall pay to Contractor at the address indicated in the Billing Information the amount stated to be due less any withholding required by Applicable Laws or permitted hereunder. Notwithstanding the foregoing, if Company disputes any item charged in any invoice, Company shall notify Contractor of the disputed item, specifying the reason therefor. Payment of such disputed item shall be withheld until settlement of the dispute, provided that payment shall be made on the undisputed portion. Company shall be entitled to set-off amounts which it owes to Contractor under this Agreement or any other agreement against amounts which Contractor owes to Company under this Agreement or any other agreement.
- 12.7 The Company will retain a holdback equal to ten percent (10%) of the value of all payments due the Contractor for a minimum period of sixty (60) days after substantial completion of this Agreement in accordance with the *Builders' Lien Act*, R.S.N.S. 1989, c. 277 and the *Mechanic's Lien Act* R.S.N.L. 1990 c. M-3 as applicable. The Company shall not in any event pay the same until the Contractor has demonstrated to the Company's satisfaction that it has settled all costs and claims by third parties with respect to the operations of the Contractor, any Subcontractor and their respective Personnel. The Company will not be liable for any interest on the aforementioned ten percent (10%) holdback. If the Company receives a written notice of a lien claim of a Subcontractor, the Company shall, in addition to the above ten percent (10%) holdback, hold back the amount claimed in such written notice. The Company shall not be liable for any interest on such additional holdback. In the event there are Subcontractor claims the Contractor is unable or unwilling to settle and liens have been filed, the Company may, at its option and upon being reasonably satisfied as to the validity of such claims, pay such claims and any other expenditures required to vacate such liens. The Company shall deduct such expenditures from the amounts due to the Contractor under this Contract and shall not be liable to pay the Contractor such amounts. .
- 12.8 Payment of any invoice by Company shall not prejudice the right of Company to protest or question the correctness thereof for a period of up to two (2) years after expiration

or any termination of this Agreement. Failure by Company to protest or question charges shall not be deemed to be acceptance of the charges or as an acceptance of defective workmanship, materials or equipment, nor preclude Company from subsequently questioning an amount or from conducting an audit.

- 12.9 (a) Subject to Article 12.9(b), payments by Company to Contractor hereunder will be made by cheque.
- (b) Payments by Company to Contractor hereunder may, with the prior written agreement of Company, be made by electronic transfer to Contractor's bank.
- 12.10 (a) For greater certainty, Contractor and Company acknowledge that, notwithstanding any other provision of this Agreement, any amounts payable by Company to Contractor pursuant to this Article 12 are exclusive of any HST as payable pursuant to the *Excise Tax Act* (Canada). If Contractor is required to collect from Company an amount of HST with respect to the provision of any goods or services supplied pursuant to this Agreement, then Company, subject to compliance by Contractor with Article 12.10(c), shall pay the amount of such HST to Contractor.
- (b) Contractor represents and warrants that it is now and shall remain registered for the purposes of the HST in accordance with Part IX of the *Excise Tax Act* (Canada) for the Term and that its HST Registration number is **[Proponent to Provide #]**.
- (c) Contractor shall provide, at all times when any HST is required to be collected, such documents and particulars relating to the supply as may be required by Company to substantiate a claim for any input tax credits as may be permitted pursuant to the *Excise Tax Act* (Canada) in respect of such HST. Without limiting the foregoing, Contractor shall include on all invoices issued pursuant to this Article 12 all of the following particulars:
- (i) HST registration number of Contractor;
  - (ii) the subtotal of all taxable supplies;
  - (iii) the applicable HST rate(s) and the amount of HST charged on such taxable supplies; and
  - (iv) a subtotal of any amounts charged for any "exempt" or "zero-rated" supplies as defined in Part IX of the *Excise Tax Act* (Canada).
- 12.11 Company shall be entitled to withhold payment or to deduct from Contractor's compensation to the extent necessary to protect Company in respect of:
- (a) invoiced amounts reasonably disputed by Company;
  - (b) failure of Contractor to make payments promptly to Subcontractors, agents, or suppliers;

- (c) failure of Contractor to remit or pay any Tax or make any other payment required under Applicable Laws where Company, acting reasonably, determines that any such remittance or payment may be assessed against the Company;
- (d) defective Work not remedied;
- (e) liens or claims filed, or reasonable evidence indicating to Company the probability of claims or liens being filed, with respect to the Work; and
- (f) any amount as permitted or required by Applicable Laws or as expressly provided in Exhibit 2 – Compensation, or elsewhere in this Agreement.

12.12 Any indebtedness of Contractor to Company, or to a parent, subsidiary or Affiliate of Company, may, in the sole discretion of Company, be setoff by Company against any indebtedness of Company to Contractor under this Agreement.

### **Article 13**

#### **TAXES**

- 13.1 Contractor agrees to prepare and to file in a timely manner all Tax returns or declarations required by any applicable Authority or Applicable Laws having jurisdiction over this Agreement or any portion thereof. Contractor shall lawfully discharge its Tax obligations.
- 13.2 Subject to the obligation of the Company to pay HST pursuant to Article 12.10(a), Contractor shall pay all Tax and shall use its best efforts to ensure payment by Subcontractors of all Tax which may be lawfully assessed upon Contractor or any Subcontractor by any Authority having jurisdiction over Contractor, Subcontractor or this Agreement.
- 13.3 Contractor represents that Contractor's residence status for the purposes of Canadian income tax legislation is as set forth in Exhibit 10 - Declaration of Residency. Contractor shall advise Company of the country where Contractor is a resident for income tax purposes and of any change to its tax residency status. If Contractor obtains an income tax waiver from the Canada Revenue Agency (CRA) waiving a non-resident tax source deduction as may be required by Canadian income tax legislation, Company agrees not to withhold any such income tax deduction to the extent waived so long as the waiver remains in force. In any event, Contractor further agrees to be liable for all such Taxes and shall indemnify Company in respect thereof pursuant to Article 21.10 of this Agreement.
- 13.4 If required by the Applicable Laws of any country having jurisdiction, Company shall have the right to withhold amounts, at the withholding rate specified by such Applicable Laws, from any compensation payable for the Work performed by Contractor, and any such amounts paid by Company to an Authority pursuant to such Applicable Laws shall, to the extent of such payment, be credited against and deducted from amounts otherwise owing to Contractor hereunder. Contractor shall note on each invoice whether any portion of the Work covered by such invoice was performed inside or

outside of Canada for the purposes of Canadian income tax legislation or such other information requested or required by Company to properly assess withholding requirements. At the request of the Contractor, Company shall deliver to Contractor properly documented evidence of all amounts so withheld which were paid to the proper Authority for the account of Contractor.

- 13.5 Contractor shall supply and arrange for all Contractor Personnel to supply Company with all information relating to the activities under this Agreement that is necessary to enable Company or its Affiliates to comply with the lawful demand for information by any Authority or as required by the regulations of any recognized stock exchange which lists shares in the capital of Company or any of its Affiliates. In the event Contractor does not supply or take all steps to arrange for any Subcontractor to supply such information and, as a result, an Authority imposes a Tax or fine upon Company or any of its Affiliates, Contractor shall forthwith pay or reimburse Company for such Tax or fine.
- 13.6 Subject to the obligation of Company to pay HST pursuant to Article 12.10(a), Contractor shall be responsible for all Taxes which Contractor or Company is obliged pursuant to Applicable Laws to pay and does pay, for the purchase, sale, importation and exportation of the Work, or Contractor's Items, or personal property of any member of Contractor Group. Contractor shall obtain for the benefit of Company all available exemptions from or recoveries of Taxes and shall employ all prudent mitigation strategies to minimize the amounts of Taxes required to be paid in accordance with Applicable Laws. In the event Contractor obtains any rebate, refund or recovery in respect of any such Taxes, it shall immediately be paid to Company to the extent that such amounts were paid by Company or reimbursed to Contractor by Company.
- 13.7 For greater certainty, Contractor and Company acknowledge that, notwithstanding any other provision of this Agreement, any amounts payable by Contractor to Company pursuant to this Agreement are exclusive of any HST payable pursuant to the *Excise Tax Act* (Canada) or any other Taxes exigible in respect of such amounts payable. If Company is required to collect from Contractor an amount of HST or other Taxes with respect to any such amounts payable pursuant to this Agreement, then Contractor shall pay the amount of such HST or other Taxes to Company.

#### **Article 14 AUDIT AND RECORDS**

- 14.1 Contractor shall maintain, and shall require each Subcontractor to maintain, in accordance with generally accepted accounting principles and practices satisfactory to Company, books, records, expense accounts and accounts pertaining to the provision of the Work, including Contractor's and Subcontractors' personnel records, correspondence, instructions, plans, drawings, receipts, vouchers, memoranda, tapes, data, models, data stored in computer libraries and such other documentation and related systems of controls necessary for an accurate audit and verification of costs of the Work provided and general contract compliance.
- 14.2 Contractor and Subcontractors shall preserve the documents, records, registers and systems of control described in Article 14.1 during the provision of the Work and for a

period of not less than six (6) years after expiration or any termination of this Agreement. Thereafter, Contractor shall give no less than sixty (60) days' notice to Company of Contractor's or Subcontractors' intention to destroy any of said documents and Company shall have the option to take possession of such records.

- 14.3 Company shall, at all times, have access to and be authorized to examine and make copies, including electronic copies, of all documents, records and systems of control set forth in Article 14.1 and such other documents and systems as may be related to this Agreement and shall be authorized to interview Contractor's Personnel as may be necessary for an accurate audit and verification of costs of the Work provided and general contract compliance.
- 14.4 Notification of any claims made or discrepancies disclosed by such audit shall be made in writing to Contractor. Contractor and Company shall diligently attempt to resolve and agree upon such audit claims or discrepancies. Upon an audit claim or discrepancy being resolved and agreed upon, Contractor shall forthwith reimburse Company for any monies due as a result of such agreement or determination. Company may set off any amounts owed to it by Contractor for audit claim or discrepancies against any payments owed to Contractor by Company.
- 14.5 Contractor shall not be reimbursed for any costs it may incur as a result of Company conducting an audit pursuant to this Article 14. All such audits shall be conducted during normal business hours of Contractor and Company and Company shall give reasonable notice to Contractor of the audit and shall specify the matters which are the subject of the audit.
- 14.6 In each year of the Term, Contractor shall provide Company with annual audited financial statements of Contractor's operations within one (1) month of delivery of the auditor's report to the Contractor.

#### **Article 15**

#### **SAFETY AND ENVIRONMENTAL PROTECTION**

- 15.1 Contractor shall be responsible for ensuring the health and safety of all Contractor's Personnel who are engaged in the performance of the Work. Without limiting the foregoing, Contractor shall:
- (a) ensure that all Contractor's Items and equipment within Contractor's control are maintained in safe, sound and proper condition and capable of performing the function for which it is intended and meets all industry standards and Applicable Laws;
  - (b) cease all activities in the area of any identified health or safety problem until it is resolved;
  - (c) immediately report to Company all health and safety hazards;

- (d) at its own expense and in accordance with Applicable Laws, supply and maintain Contractor's Personnel with adequate protective clothing which shall be worn and used on all occasions as indicated by notices, instructions, good practice or as required by risk assessment;
- (e) conduct such drills and tests of Contractor's Items, equipment, Personnel and procedures to ensure that they are available, trained and in place, respectively, for immediate and effective action in the event of emergency;
- (f) cooperate fully and comply with any directions given by the police, safety and environment regulatory officials and fire authorities; and
- (g) report to Company monthly training compliance and safety statistics as identified by Company.

15.2 Contractor shall develop and submit, for Company's Approval, a detailed Health, Safety & Environment ("HSE") plan for the Work which demonstrates that, in connection with Contractor's performance of the Work, Contractor has identified risks pertaining to the environment and to the health and safety of Contractor's Personnel, and that effective controls are implemented to prevent accidents and health, safety and environmental threats. Contractor's HSE plan shall:

- (a) be structured in accordance with various elements within the Work such as fabrication, transportation, installation and commissioning;
- (b) include measurable, achievable targets for HSE performance, including but not limited to: lost time frequency; total recordable frequency; injury severity data; performance criteria for environmental emissions and waste; first aid cases; and hazardous materials; and
- (c) include such other details as are outlined in Exhibit 4 – Coordination Procedures to this Agreement.

Company shall accept Contractor's HSE plan so long as it meets applicable federal, provincial and local laws, codes, ordinances, rules, regulations, orders and decrees of any Authority or regulatory body having jurisdiction over safety, health and environmental compliance of the Work or the Worksite and any other requirements of Company. If the Company, in its sole discretion, determines that the Contractor's HSE plan is deficient, the Contractor shall work diligently to rectify such deficiency within ten (10) business days of notice of such deficiency by the Company.

15.3 Contractor shall comply with all such standards and the provisions of its HSE plan, along with any changes thereto as Contractor may be notified from time to time by Company, and all Applicable Laws relating to occupational health, safety and environmental protection. Contractor shall ensure that all Contractor's Personnel involved in the performance of the Work comply with the provisions of Contractor's HSE plan and all Applicable Laws relating to occupational health, safety, quality and environmental

protection. Contractor shall appoint a safety officer who shall assist Contractor in safety matters relating to Contractor's Personnel.

- 15.4 Contractor shall promptly investigate and report to Company and all authorities having jurisdiction any near miss incidents or accidents resulting in injury, death or illness to any of Contractor's Personnel engaged in the performance of the Work, any criminal acts, any damage to property or the environment and any unauthorized environmental releases.
- 15.5 Contractor shall submit to Company, for Company's Approval, Contractor's drug and alcohol policy which shall be in compliance with Applicable Laws. Contractor shall ensure that Contractor's Personnel who are engaged in the performance of the Work, are familiar with, and comply with, Contractor's drug and alcohol policy.
- 15.6 Company shall have the right to suspend performance of the Work for as long as necessary to prevent or stop any violation of this Article 15. During such period of suspension, no compensation shall be payable to Contractor by Company and the Contractor shall not be entitled to compensation for any costs it incurs as a result of the suspension.
- 15.7 Company reserves the right to audit and inspect the Worksites to verify compliance with this Agreement.
- 15.8 Notwithstanding Article 35.6, Contractor shall immediately comply with any verbal instruction from the Project Manager or a Company Representative regarding any matter of imminent danger:
- (a) to the health and safety of any person; or
  - (b) of pollution of or damage to the environment.
- 15.9 Contractor shall support and participate in any HSE initiative requested by Company with the aim of improving the performance of the Project.

#### **Article 16**

#### **ACCESS, INSPECTION AND TESTING**

- 16.1 (a) Company shall, in accordance with this Article 16.1, have the right to send Company Group Personnel to the Worksites to monitor the progress of the Work.
- (b) Company Group Personnel shall, at all times during the Term, be granted unrestricted right of access to inspect the Work and monitor all the Work in progress or the Contractor Items utilized in connection with the creation or construction of the Work for the purpose of determining that the Work is being created or constructed in accordance with this Agreement.
- (c) Contractor, with the prior Approval of Company, shall permit representatives of Authorities to enter onto and inspect a Worksite, with reasonable advance



notice and escorted access to the Work. Contractor may provide, and each such Person shall accept, reasonable safety and security measures implemented by Contractor. Contractor shall also promptly provide information reasonably requested by Company, Authorities or any of their representatives. Contractor shall include appropriate provisions in all its Subcontracts and purchase orders to ensure the proper enforceability of the provisions of this Article 16.1.

- (d) No inspection, representation, responsibility or action of any Company Group Personnel hereunder shall relieve Contractor Group of any of its obligations or liabilities under this Agreement or operate as a waiver or release of the same.
  - (e) At all times during the Term, the Contractor Group Personnel shall provide all requisite assistance to Company Group Personnel.
  - (f) Commencing on the Effective Date and throughout the Term, Contractor shall maintain a Workscope Quality Plan in respect of every aspect of the Work in accordance with Exhibit 4 – Coordination Procedures.
- 16.2 (a) Notwithstanding any Company, Authority or other third party inspection, testing or witnessing, Contractor shall be responsible for quality control, quality surveillance/inspection, testing and quality assurance of the Work to verify and be able to demonstrate substantive compliance with the requirements of this Agreement. Contractor shall carry out its quality management activities in accordance with Exhibit 4 – Coordination Procedures.
- (b) Contractor shall conduct tests on the Work in accordance and in compliance with the provisions of Exhibit 1 - Scope of Work, Workscope Quality Plan, Contractor's quality management system, Company Supplied Document Listing and Applicable Laws. Company shall have the right at all times to request and witness any such test on the Work contemplated by this Article 16.2.
  - (c) Contractor shall rectify, at Contractor's sole cost, any failure to comply with the requirements of Exhibit 1 – Scope of Work and Applicable Laws that are identified during testing, commissioning and inspection of the Work.
  - (d) Upon the request of Company and at Contractor's cost, Contractor shall re-test the Work in order to confirm the requirements of this Agreement are met. Company may further require Contractor to re-test, at Contractor's cost, all the Work similar to that Work which originally failed such re-test prior to transportation from the relevant manufacturing location.
- 16.3 Company shall have the right to reject any Work, workmanship, equipment and documentation which do not conform to this Agreement. Contractor shall, at its sole expense, promptly remove any items so rejected and shall immediately repair or replace the same and shall carry out such further inspections or tests on other parts of the Work, as Company may require, to ensure that there are no similar parts of the Work that fail to conform with this Agreement.

- 16.4 If Contractor does not fulfill its requirements under this Article 16 within a reasonable period set by Company, then, following five (5) Business Days Notice to Contractor by Company, Company may have the Work which is the subject of the Notice corrected by a third party at the sole cost of Contractor. Such recourse shall in no way relieve Contractor from its obligations under this Agreement or limit Company's rights and remedies available under this Agreement or at law.

**Article 17**  
**WARRANTY**

- 17.1 The Warranty Period in respect of Work is that period commencing after the Work is put into electrical load in commercial service by Company and ending sixty (60) months thereafter ("Warranty Period").
- 17.2 For the duration of each Warranty Period, Contractor warrants:
- (a) all of the Work and Warranty Work, against any and all defects, errors and failures in design, materials, engineering and workmanship (collectively the "Defects"); and
  - (b) that all of the Work and Warranty Work shall be fit for purpose, as more specifically set forth in this Agreement, and where no purpose is specified, fit for its intended use.
- 17.3 For the avoidance of doubt, the provisions of this Article 17 shall also extend to all portions of the Work and Warranty Work carried out by Subcontractors. Contractor shall cause to be extended to Company any applicable representations, warranties, guarantees and obligations with respect to design, engineering, materials, workmanship, equipment, tools and supplies furnished by its Subcontractors. All representations, warranties, guarantees and obligations of Subcontractors shall be:
- (a) so written as to survive all Company and Contractor inspections, tests and Approvals; and
  - (b) extended to and be enforceable by Company, its successors and assigns.

If applicable, Contractor shall assign to Company all of Contractor's rights and interest in all extended warranties for periods exceeding the applicable Warranty Period which were received by Contractor from any of its Subcontractors or vendors.

- 17.4 If, within the Warranty Period, any of the Work is faulty, defective or deficient, Contractor, on receipt of Notice from Company, shall commence and diligently perform all services and work and supply all materials and equipment required to remedy such Defect to the Standard of a Prudent Contractor and in the manner and at the times that Company directs so that it conforms to the requirements in the Agreement ("Warranty Work").

- 17.5 During the period that Warranty Work is being performed, Contractor shall continue to cooperate with Company's Other Contractors and Company Personnel in accordance with Article 3.7. If Contractor does not fulfill its requirements under this Article 17 or fails to fulfill its requirements within the period set by Company, within five (5) Business Days of Notice to Contractor by Company, Company may have the Work which is the subject of the Notice from Company corrected by a third party at the sole cost of Contractor. Such recourse shall in no way relieve Contractor from its Warranty obligations.
- 17.6 Contractor shall not substitute any materials without the Approval of Company. All work required to be performed in accordance with the terms of this Article shall be performed at the expense of Contractor and shall not give rise to any right of Contractor to remuneration.
- 17.7 Company shall have the right to instruct Contractor to, and Contractor shall at its own cost, re-design, re-build and replace any Work which, within the Warranty Period, fails to meet the requirements of this Agreement.
- 17.8 This Warranty is subject to the following additional terms and conditions:
- (a) Notwithstanding anything contained elsewhere in the Agreement, this Warranty shall apply to items manufactured and installed by Contractor, regardless of whether components or raw materials are supplied by others.
  - (b) Subject to Article 17.7, Contractor shall have the option of repairing or replacing any Defects in the Work provided such repair or replacement meets all the requirements and specifications outlined in this Agreement.
- 17.9 All Warranty Work shall itself be guaranteed by Contractor on terms identical, with only such changes as may be necessary, to those specified above in this Article 17, for a period of sixty (60) months from the date of completion of the Warranty Work with respect to each item for which Warranty Work is required.
- 17.10 Unless otherwise instructed by Company, Contractor shall remove from the Worksite and dispose of any parts or equipment that have been replaced, and Contractor shall be solely responsible for all costs associated with such removal and disposal. Company shall have the option, to be exercised at its discretion, to retain ownership of removed and replaced parts and may use or dispose of them as Company shall deem fit.
- 17.11 Company shall notify Contractor in writing with reasonable promptness after discovery of any Defect in respect of which Contractor shall be obliged pursuant to this Article 17 to perform Warranty Work. Notice of any Defect discovered during the Warranty Period must be given to the Contractor no more than sixty (60) days after the end of the Warranty Period.
- 17.12 Company may, at its sole discretion, retain a Marine Warranty Surveyor. The Marine Warranty Surveyor shall be entitled to review and Approve marine operations including but not limited to load outs, seafastening, sail aways, launching and cable installation

operations. The Marine Warranty Surveyor will review procedures and issue appropriate certificates to comply with the policies described in Article 18 and in Article 20. Company shall advise Contractor as early as reasonably practicable of the specific operations that will be subject to review, Approval and/or certification by the Marine Warranty Surveyor. The Contractor shall not commence any load out, tow out, sail aways, launch, seafastening or cable installation operations until it has obtained Approval from the Marine Warranty Surveyor and the Company for such operations. Contractor shall cooperate with and provide information as may be requested to the Marine Warranty Surveyor. Contractor shall provide access to Contractor's Spread on reasonable notice.

- 17.13 Company may, at its sole discretion, retain independent third parties to inspect, test, review and/or observe the Work for compliance with this Agreement. Contractor, upon reasonable notice, shall provide access to the Work and to the Contractor's Spread to permit the independent third parties to perform their duties.

### **Article 18 CONTRACTOR INSURANCE**

- 18.1 The Contractor will procure insurance policies in accordance with the requirements of this Article 18 from an insurance company acceptable to the Company. If the Contractor fails to procure such policies or fails to provide certificates of insurance confirming such coverage in a form and with content acceptable to the Company, within thirty (30) days after the Effective Date, or if any insurance is cancelled and not immediately replaced with comparable insurance to the satisfaction of the Company, then the Company may at any time by Notice to the Contractor terminate the Agreement. On written request by the Company to the Contractor, the Contractor shall provide copies of insurance policies obtained by the Contractor in accordance with this Article 18.
- 18.2 Contractor shall at all times while conducting the Work hereunder carry at least the following insurance coverages with limits not less than those specified herein, such insurance to be placed with financially sound insurance companies. The cost of such insurance, including but not limited to deductibles or self-insurance or policy retentions, shall be for the sole account of Contractor:

(a) Workers' Compensation

Workers' Compensation coverage for all of its Personnel engaged in the Work in accordance with the Applicable Laws of the jurisdictions in which the Work is performed. Contractor shall further ensure that non-residents are fully covered by Workers' Compensation insurance and Employer's Liability insurance with such coverage including an extraterritorial benefits extension providing benefits at least equal to those provided by the jurisdiction in which the Work is performed.

(b) Employer's Liability

Employer's Liability insurance, including maritime coverage, with limits as required by Applicable Laws, but not less than Canadian Five Million Dollars (\$5,000,000.00) covering each employee engaged in the Work.

(c) Comprehensive General Liability

Comprehensive General Liability insurance written on an occurrence basis with limits of not less than Canadian Five Million Dollars (\$5,000,000.00) per occurrence for bodily injury and/or property damage including contractual liability covering the indemnity obligations included in this Agreement, extension of territorial limit to include operations offshore eastern Canada, watercraft exclusion deleted as respects watercraft to be furnished by Contractor hereunder, sudden and accidental pollution liability for risks assumed by Contractor, broad form property coverage, personal injury, contractor's protective liability, completed operations, contingent employer's liability and incidental medical malpractice

(d) Automobile Liability Insurance

When not otherwise covered by Contractor's Comprehensive General Liability policy, Contractor shall obtain and maintain in effect automobile liability insurance covering all licensed vehicles whether owned, non-owned, leased or hired. Such insurance will provide a minimum combined single limit of liability for bodily injury and property damage of Canadian Five Million Dollars (\$5,000,000.00) per occurrence.

(e) Protection and Indemnity – Marine Liability Insurance

To the extent watercraft of any type or description are used by Contractor in the performance of the Work, Protection and Indemnity or Marine Liability Insurance, including pollution liability, covering all owned, leased or chartered vessels. The limit of Protection and Indemnity or Marine Liability Insurance required shall be not less than Canadian One Billion Dollars (\$1,000,000,000.00) and shall include crew liability (including transportation, wages, maintenance and cure), third party bodily injury, wreckage and debris removal, and property damage liability, including collision/towers liability and contractual liability.

(f) Marine Physical Damage Insurance

Marine physical damage insurance covering all vessels, tugs, barges, tenders and other watercraft provided by Contractor in the performance of the Work including the equipment and materials thereon with a limit of such insurance equivalent to Contractor's declared replacement cost thereof or such other limit acceptable to Company.

(g) Non-owned Aircraft

To the extent that it is used in the performance of the Work, Non-owned aircraft liability insurance with a combined single limit of not less than Canadian Ten Million dollars (\$10,000,000.00).

(h) Property

“All risks” property insurance covering all real and personal property which Contractor owns, leases or has in its care, custody or control and which is not otherwise insured, including, without limiting the foregoing, cable manufacturing plant, Work in progress and all other machinery and equipment to be issued for the Work but not forming part of the Work.

(i) Other

Contractor is required to ensure that each of the Subcontractors provides insurance similar to the foregoing, as well as insurance which:

- (A) is required by Applicable Laws; or
- (B) is reasonably appropriate in respect of the Work hereunder to be performed.

In addition to the insurance coverage specified in this Article 18, Contractor shall carry such other insurance and in such amounts as may be required in order to comply with Applicable Laws, liabilities assumed under the Agreement or, in respect of specific activities performed for the Work, as directed by Company.

- 18.3 All insurance policies required by this Agreement shall be endorsed to waive insurer's rights of subrogation against Company and their Personnel, stockholders, successors, assigns and Affiliates, except to the extent of the liabilities assumed and indemnities given by Company hereunder. All liability policies required above shall name Company and their Personnel, stockholders, successors, assigns and Affiliates as additional insureds and shall contain cross liability and severability of interest provisions. Except to the extent of the liabilities assumed and the indemnities given by Company hereunder, all of Contractor's insurance policies, whether or not specifically required by this Agreement, shall operate as primary to any insurance policies maintained by Company and their Personnel, stockholders, successors, assigns and Affiliates.
- 18.4 All policies set forth herein shall be further endorsed to provide Company thirty (30) days prior written notice of cancellation or any material change in coverage.
- 18.5 Prior to the Effective Date Contractor shall submit to Company certificates of insurance or such other documentation as Company may require, including certified copies of the policies evidencing the above required insurance. Failure of Company to advise

Contractor of any insurance deficiencies shall not relieve Contractor of any liability related thereto.

- 18.6 Each Party shall give the other prompt notification of any claim with respect to any of the insurance policies referred to in Article 18, accompanied by full details of the incident giving rise to such claim. Each Party shall afford the other all such assistance as may be reasonably required for the preparation and negotiation of insurance claims.
- 18.7 If requested by the other Party, a Party shall advise the other Party in writing of the final resolution of any such insurance claims.
- 18.8 Company may reduce or waive all or any portion of these insurance requirements under circumstances where the Work to be performed does not require equivalent insurance coverage. Such reduction or waiver shall be obtained in writing and shall in no way reduce or waive Contractor's responsibility or liability for Work performed hereunder.
- 18.9 Nothing in this Article 18 shall or is intended to limit the liability of Contractor under any other provision of this Agreement.

#### **Article 19**

#### **WORKERS COMPENSATION**

- 19.1 Prior to the performance of the Work hereunder, Contractor shall provide Company with Contractor's Workers' Compensation number and a letter of good standing from the applicable authority in accordance with the Applicable Laws of the jurisdiction in which the Work is performed. Contractor shall at all times pay, or cause to be paid, any assessment or contribution required to be paid pursuant to Applicable Laws relating to Workers' Compensation in respect of Contractor's Personnel and, upon failure to do so, authorizes Company, in addition to any other rights of Company under this Agreement, to withhold and remit on behalf of Contractor an amount equal to such assessment or contribution, including any interest and penalty assessed thereon.

#### **Article 20**

#### **PROJECT INSURANCE**

- 20.1 The following insurance coverages shall be procured by **[Insert - Company or Contractor]**, to be determined. Policies will cover all participants in the Projects as their interests and/or liabilities may appear:
- (a) Construction All Risk (CAR) insurance, subject to a limit of not less than the total Price, attaching at **[Insert – Date or Triggering Event]**.
  - (b) Wrap liability insurance in the names of the Company, Contractor and all Subcontractors written on an occurrence basis with limits not less than Fifty Million dollars (\$50,000,000.00) Canadian per occurrence for bodily injury and/or property damage including contractual liability covering the indemnity obligations included in this Agreement, extension of territorial limit to include operations offshore eastern Canada, watercraft exclusion deleted as respects Contractor's Spread, sudden and accidental pollution liability, broad form

property coverage, personal injury, contractor's protective liability, completed operations, contingent employer's liability, completed operations, contingent employer's liability, incidental medical malpractice, cross liability and severability of interest provisions.

- (c) All insurance policies required by this Agreement shall be endorsed to waive insurer's rights of subrogation against Company and their Personnel, stockholders, successors, assigns and Affiliates, except to the extent of the liabilities assumed and indemnities given by Company hereunder. All liability policies required above shall name Company and their Personnel, stockholders, successors, assigns and Affiliates as additional insureds and shall contain cross liability and severability of interest provisions. Except to the extent of the liabilities assumed and the indemnities given by Company hereunder, all insurance policies required by this Article 20, shall operate as primary to any insurance policies maintained by Company and their Personnel, stockholders, successors, assigns and Affiliates.
- (d) All insurance policies required by this Article 20 shall be further endorsed to provide Company thirty (30) days prior written notice of cancellation or any material change.
- (e) The insurance policies required by this Article 20.1(b) and (c) shall be put in place [upon the commencement of the Term/Work] and shall be maintained for the Term, with any completed operations coverage to continue after the Term as set out in the policy.

## **Article 21**

### **LIABILITY AND INDEMNIFICATION**

- 21.1 The Parties hereby agree and acknowledge that if a provision in this Article 21 conflicts with any other provision in this Agreement, the provision in this Article 21 shall prevail.
- 21.2 For the purposes of this Agreement, any liability assumed or indemnity given by Contractor for the benefit of Company shall be deemed to be given by Contractor for the benefit of Company, its successors and assigns, Affiliates and Personnel.
- 21.3 It is agreed and understood that the exculpatory clauses and indemnity obligations of each Party as provided in this Agreement shall apply to any and all damages (including punitive and exemplary damages), expenses, costs, losses, injuries, liabilities, claims, liens, judgments, settlements, awards, remedies, debts, expenses, causes of action, demands, court costs, legal fees or disbursements whatsoever incurred by the indemnified Party (hereinafter collectively referred to as a "Claim").
- 21.4 Subject to Article 21.13 and Article 23.6, the Company shall indemnify, keep indemnified and shall hold the Contractor harmless from and against any and all Claims by a third party which the Contractor may at any time sustain or incur by reason or in consequence of a breach or non-performance by the Company or any agent, employee,



licensee for whom the Company is in law responsible arising from the performance of any of the obligations of the Company under this Agreement.

- 21.5 The Contractor shall indemnify, keep indemnified and shall hold Company harmless from and against any all Claims which the Company may at any time sustain or incur by reason of or in consequence of any one or more of the following:
- (a) any negligent act or omission or wilful misconduct of the Contractor, or any agent, employee, licensee, invitee or person acting on behalf of any of them in connection with or incidental to the performance of or default in any of the Contractor's obligations under this Agreement;
  - (b) any inaccuracy in any representation or warranty made by the Contractor, a Subcontractor, the guarantors or any other person that delivers to the Company any document, or security instrument containing any such representation or warranty pursuant to this Agreement;
  - (c) any breach or non-performance by the Contractor, or any Subcontractor or agent, employee, licensee or person acting on behalf of the Contractor of any of the obligations of the Contractor in respect of the performance of the Work;
  - (d) any Claims by any third party in contract, tort, under any statute or otherwise at law or in equity with respect to any injury, damages, losses, costs, and expenses arising out of a breach of contract or negligent actions or omissions or wilful misconduct of the Contractor, a Subcontractor or any agent, employee, licensee or person acting on behalf of any of them in connection with or incidental to the Work;
  - (e) any action taken by the Company to mitigate or cure a breach or non-performance by the Contractor or any Subcontractor of any covenant or inaccuracy in any representation or warranty pursuant to the Agreement;
  - (f) any non-payment of amounts due and payable to Subcontractors resulting from furnishing of services, material, equipment, labour or otherwise in connection with the performance of Work;
  - (g) any Claim in respect of loss or damage to the property of the Contractor Group however caused unless the Claim was caused by the sole negligence or wilful act or omission by the Company;
  - (h) any Claims in respect of personal injury or death of Contractor's Personnel however caused and regardless of whether or not the Claim was caused by negligence, breach of agreement or breach or duty;
  - (i) any representation or holding out by Contractor that it is an agent of the Company.

21.6 Contractor shall include in all of its Subcontracts, a provision stating that Subcontractors shall defend, protect, release, indemnify and hold Company harmless from and against all Claims for the death of or bodily injury to Subcontractors and their respective Personnel, and for damage to or loss of the property of Subcontractors or their respective Personnel.

21.7 Except as provided in Article 21.4 Contractor shall:

- (a) be liable to Company for all Claims which Company may suffer, sustain, pay or incur; and
- (b) defend, protect, release, indemnify and hold Company harmless from and against all Claims which may be brought against or suffered by Company or which Company may sustain, pay or incur;

directly or indirectly on account of the death of or bodily injury to third parties, and for damage to or loss of property of third parties arising from or in connection with the performance, non- performance or purported performance of the Work whether or not caused by or contributed to by the negligence of Company (except the sole negligence of Company) or any of its Personnel.

21.8 Without limiting the generality of Article 21.5, Contractor shall exercise all diligence to conduct operations under this Agreement in a manner that will prevent seepage, pollution or discharge of debris, and Contractor warrants that it shall comply with all Applicable Laws and Company's procedures and guidelines regarding seepage or pollution. No trash or other pollutants shall be discharged or allowed to escape from Contractor's Items or other equipment used by Contractor in the performance of the Work. Contractor shall instruct Contractor's Personnel in matters relating to pollution and take all measures to prevent seepage and pollution and the discharge or escape of pollutants. Contractor shall, at its own expense, clean up any pollution, seepage or discharge or escape of pollutants from Contractor's Items or other equipment used by Contractor in the performance of the Work and promptly take such measures as are necessary in the circumstances to prevent or mitigate any damage resulting from such seepage or pollution or discharge or escape of pollutants and in any event take such measures that Contractor or Company is under instructions to take from any governmental authority having jurisdiction to so instruct. Contractor shall be liable for and defend, protect, release, indemnify and hold Company harmless from and against all Claims (including any fine, penalty or demand of any Authority having jurisdiction) which may be brought against or suffered by Company or which Company may sustain, pay or incur, arising out of any failure by Contractor to comply with its obligations under this Article 21.8.

21.9 Contractor shall be responsible and liable for any costs of recovery of any materials or equipment lost overboard and for the loss of any of the Contractor's Spread. Contractor shall indemnify Company against any claims against or costs incurred by Company arising from any such loss of equipment, materials or Contractor's Spread.

21.10 Without limiting the generality of Article 21.5, and subject to the obligation of Company to pay HST pursuant to Article 12.10, Contractor shall be liable for and defend, protect, release, indemnify and hold Company harmless from and against:

- (i) any and all Taxes imposed by any Authority on Contractor, Contractor's Personnel or Subcontractors in respect of this Agreement, and any and all Claims including payment of Taxes which may be brought against or suffered by Company or which Company may sustain, pay or incur in conjunction with the foregoing as a result of the failure by Contractor to pay any and all Taxes imposed as stated herein; and
- (ii) any and all Taxes imposed by any Authority in respect of the Work, or Contractor's Items, or any other items used by Contractor in the performance of the Work, or in respect of any services performed by Contractor's Personnel or Subcontractors in respect of this Agreement, and any and all Claims (including Taxes) which may be brought against or suffered by Company or which Company may sustain, pay or incur in conjunction with the foregoing as a result of the failure by Contractor to pay any and all Taxes imposed as stated herein.

21.11 The liability and indemnities specified in this Article 21 shall apply:

- (a) without limit and without regard to the cause of any Claim, including the negligence or fault (whether sole, concurrent, gross (except when gross negligence or wilful misconduct is expressly provided as an exception to a specific provision hereof), active or passive negligence) or otherwise or wilful act or omission and including strict liability, breach of contract, breach of duty (statutory or otherwise) and including any pre-existing conditions, of either Party or any other Person (including the Party or Person seeking indemnity);
- (b) whether or not any Claim is asserted to have arisen by virtue of tort, contract, quasi-contract, statutory duty, or any Applicable Laws;
- (c) whether or not any Claim is made or enjoyed by the Person sustaining the injury or loss or by the dependents, heirs, claimants, executors, administrators, successors, survivors or assigns of such Person.

21.12 The indemnities given in this Article 21 shall apply in respect of the full liability of the indemnified Party for Claims, notwithstanding that the indemnified Party may be entitled to contribution thereto from any other Person and notwithstanding such liability may relate to the negligence of a third party, provided that in such case the indemnifying Party shall be fully subrogated to the rights of the indemnified Party against such third party.

21.13 If a Claim by a third party is asserted in circumstances which gives or may give rise to indemnification under this Article, the Party against whom the claim is asserted (the "Non-indemnifying Party") shall forthwith give Notice thereof to the other Party (the

“Indemnifying Party”) and, at the discretion of the Non-indemnifying Party, the Indemnifying Party shall undertake the defence of such Claim. The Parties shall consult and cooperate in respect of such Claim and in determining whether such Claim and any legal proceedings relating thereto should be resisted, compromised or settled. Each Party shall make available to the other all information in its possession or to which it has access, and which it is legally entitled to disclose, which is or may be relevant to the particular Claim. The Indemnifying Party shall provide the Non-indemnifying Party with reasonable information as to the progress of such Claim on a regular basis. No such Claim shall be settled or compromised without the written consent of the Non-indemnifying Party. Notwithstanding the foregoing, if the Indemnifying Party, within a reasonable time after Notice of any such Claim is given to it by the Non-indemnifying Party, fails to defend such Claim, the Non-indemnifying Party shall have the right to undertake the defence and compromise or settle such Claim on behalf of and for the account of the Indemnifying Party.

21.14 Regarding Work in which title has vested in Company pursuant to the provisions of Article 23.2 and for Company Supplied Items or any other items free issued to Contractor, Contractor shall:

- (a) be liable to Company for all Claims which Company may suffer, sustain, pay or incur directly or indirectly on account of damage to or loss of such Work or Company Supplied Items or any other items free issued to Contractor.
- (b) defend, protect, release, indemnify and hold Company harmless from and against all Claims which may be brought against or suffered by Company or which Company may sustain, pay or incur directly or indirectly on account of damage to or loss of such Work or Company Supplied Items or any other items free issued to Contractor.

21.15

**Article 22**  
**SALVAGE**

- 22.1 Unless required by Applicable Laws, Contractor shall not embark upon an act of salvage without Company's prior Approval. Where Contractor embarks on an act of salvage Contractor shall assume sole liability for:
- (a) all activity associated with the salvage;
  - (b) any Contractor's Items; and
  - (c) any claims by master, officers and crew and from other parties which may arise from such acts of salvage.
- 22.2 Company shall have no liability for any damage or loss incurred as a result of the conduct of salvage activities referenced in Article 22.1. Company shall not be required to pay Contractor for the period of time that Contractor undertakes such salvage activities.
- 22.3 Notwithstanding any other provision in this Agreement, Contractor hereby waives any claim to any award for the salvage of any vessel being operated by or for the benefit of the Company Group, except to the extent that any Applicable Laws bestow the right of salvage payment upon master, officers or crew and such right cannot be otherwise removed by contract. In such circumstances, the master, officers or crew shall be entitled to the right of salvage payment in accordance with Applicable Laws.

**Article 23**  
**TITLE AND RISK**

- 23.1 Contractor warrants good title to all Contractor's Items, consumables, goods and other items furnished by it under this Agreement and that they are free from any liens or encumbrances in favour of third parties. Risk of and in Contractor's Items shall remain with Contractor throughout the Term.
- 23.2 Title to the Work (or any part) performed, including all Contractor's documentation related to the Work, shall vest in Company as and when performed or prepared. Title to all equipment and materials to be supplied by Contractor or its Subcontractors for incorporation into the Work shall vest in Company as and when it is delivered to Contractor or upon and to the extent of any payment for the equipment by Company to Contractor, whichever is earlier. Contractor shall identify, segregate in a secure area so far as possible and mark or otherwise identify all equipment for incorporation into the Work as property of Company. Title to any items free issued to Contractor by Company shall always remain vested in Company.
- 23.3 Company shall have the right, without prejudice to any other right it may have under the Agreement, to decline to pay for any part of the Work if Contractor is unable to provide evidence reasonably satisfactory to Company that title to the same has passed to Contractor or shall pass unconditionally to Company as provided in the Agreement, free from any liens or encumbrances in favour of any third parties.

- 23.4 Contractor shall cause the inclusion of terms consistent with the terms of Articles 23.1, 23.2 and 23.3 in all Subcontracts so that Company and Contractor shall have the rights herein set forth with respect to each Subcontractor involved in the performance of the Work.
- 23.5 Contractor warrants to Company that Applicable Laws do not prevent Company from obtaining title to the Work in accordance with this Article 23.
- 23.6 Contractor shall assume the risk of and undertake the care and control of the Work until an Approved Completion Certificate is issued in accordance with Article 24.5. Subject to Article 17, risk of and in the Work shall be assumed by Company upon issuance of a Completion Certificate in accordance with Article 24.5.
- 23.7 Contractor shall make available to Company all data available in electronic media for use by Company during the Term and during the operation of the MLP. Contractor shall undertake all reasonable efforts to ensure data is provided in a form fully useable to Company with well recognized industry standard applications, including the requirements of Exhibit 4 - Coordination Procedures and Exhibit 6 - Company Supplied Document Listing. Where the software necessary to enable Company to fully utilize data is based in whole or in part on Contractor's proprietary information/software, Contractor shall grant Company Group a non-exclusive, royalty free, irrevocable and non-transferable license to such information/software. Where such information/software is not proprietary to Contractor and obtained through usage of information/software leased or purchased from third parties, Contractor shall, subject to Company's Approval, arrange for and obtain for the benefit of the Company Group a non-exclusive, royalty free, irrevocable and non-transferable license to use such information/software to enable Company to fully utilize data. All Contractor's costs associated with such provision are deemed to be included in the Price and are not separately reimbursable.
- 23.8 The terms of this Article 23 shall survive the expiration or any termination of this Agreement.

#### **Article 24**

#### **COMPLETION AND DELIVERY**

- 24.1 The Work shall be completed and Delivered to Company in accordance with the Milestone Schedule. In the event the Work (or any part) shall be tendered for Delivery before the applicable date in the Milestone Schedule, the Company may, but shall not be obliged to, take Delivery of such Work. Any part of the Work ready for Delivery before the applicable date in the Milestone Schedule shall be stored and maintained by and at the expense of Contractor until Delivered to Company.
- 24.2 If Contractor fails to commence performance of the Work on the Effective Date or diligently proceed to complete the Work (or any part) for Delivery by the applicable date in the Milestone Schedule, Company may terminate the Agreement or may elect to continue with the Agreement if Contractor, in accordance with the provisions of Article 26, provides an amended Milestone Schedule acceptable to the Company. Any changes

to the Milestone Schedule pursuant to this Article 24.2 and Article 31 shall not result in an increase to the Price or otherwise affect Company's rights to liquidated damages.

- 24.3 Delivery of the Work shall be effected in the manner specified in the Agreement. Except as specified otherwise in the Agreement, Contractor shall be responsible for and shall bear the cost of packaging, loading and/or carriage of the Work to the location for Delivery specified in the Agreement.
- 24.4 Contractor shall ensure that corresponding provisions to those contained in this Article 24 are included in all Subcontracts.
- 24.5 At any time during the performance of the Work, Company may request a Completion Certificate for a portion of the Work. Within not less than fifteen (15) Business Days following receipt of such request, Contractor shall issue a Completion Certificate for that portion of the Work, for Company Approval. Such Completion Certificate shall be accompanied by appropriate documentation, acceptable to Company, demonstrating that that portion of the Work has been completed in accordance with the requirements of the Agreement, has passed any and all applicable tests specified in the Agreement and has been Delivered. Company will not be responsible for delays in processing and Approval of a Completion Certificate resulting from incomplete information and documentation provided by Contractor.

If a Milestone is specified in Exhibit 2 – Compensation as being subject to liquidated damages and Contractor fails to complete that part of the Work to achieve the Milestone, Contractor shall pay Company, as liquidated damages, the sum stipulated in Exhibit 2 – Compensation unless the failure to achieve the Milestone is due to an event of Force Majeure.

- 24.6 All liquidated damages accrued pursuant to Article 24.5 are payable by Contractor within thirty (30) days of receipt of an invoice from Company. Company may set off any amounts owed to it by Contractor for liquidated damages against any payments owed to Contractor by Company.
- 24.7 Contractor acknowledges and agrees that the liquidated damages referred to in Article 24.5, 24.6 and Exhibit 2, represent a genuine pre-estimate of damages resulting from the failure by Contractor to complete the relevant portion of the Work on the dates specified therein and that the payment of any amounts in accordance with Articles 24.5 and 24.6 shall be made as liquidated damages and not as a penalty. Such liquidated damages shall be the sole financial remedy of Company in respect of such delay, whether under this Agreement or otherwise at law, but shall otherwise be without prejudice to Company's other rights hereunder including Company's rights to recover compensatory damages at law in the event that this Agreement is terminated by Company pursuant to the terms of Articles, 24.2, 33.1 or Article 32.
- 24.8 The terms of this Article 24 shall survive the expiration or any termination of this Agreement.

**Article 25**  
**FINAL COMPLETION**

- 25.1 Once Contractor has completed all the Work in accordance with the terms of this Agreement, including without limitation all Warranty obligations, Contractor may by Notice to Company request written confirmation that Contractor has fully performed all of the Work hereunder (the “Final Completion Certificate”).
- 25.2 By submission of the Notice to Company for confirmation that the Contractor has fully performed all of the Work pursuant to Article 25.1, the Contractor agrees that, as of the date of the issuance of the Notice, the Contractor waives, remises, releases and discharges the Company of any and all Claims as of the date of the Notice that are known, ought to have been known or discoverable by reasonable means by the Contractor, which Contractor has or may have relating to or arising out of this Agreement and the subject matter of this Agreement, and all facts and circumstances related to the Work, save and except:
- (a) Claims previously submitted in writing prior to the date of the Notice, and remaining unresolved; and
  - (b) the balance of the Price payable, if any, upon the issuance of the Final Completion Certificate.
- 25.3 Company shall not be obliged to deliver the Final Completion Certificate until Contractor has fulfilled all of its Work obligations hereunder, including without limitation:
- (a) fulfilled all of its Warranty obligations hereunder, including the satisfactory completion of all Warranty Work, completed in accordance with the Agreement, and all Warranty Periods in respect of the Work or Warranty Work have expired;
  - (b) performed all maintenance obligations hereunder;
  - (c) satisfied any liens, claims or encumbrances affecting Company’s property in connection with the Work or Warranty Work in accordance with Article 41; and
  - (d) paid in full any and all outstanding obligations against the Work.
- 25.4 In the event Contractor has satisfied the criteria set forth in Article 25.3 as determined by the Company, in its sole discretion, Company shall provide Contractor with the Final Completion Certificate in the form set forth in Exhibit 4 – Coordination Procedures within thirty (30) days of Contractor’s Notice under Article 25.1.
- 25.5 The issuance of the Final Completion Certificate shall not release Contractor from the provisions of this Agreement which expressly or by their nature extend beyond the expiration or any termination of this Agreement.



**Article 26**  
**CHANGES**

- 26.1 Company has the right to make a Change at any time and from time to time during the Term. Contractor shall implement all Changes required by Company. Compensation for a Change shall be determined in accordance with Exhibit 2 – Compensation and the procedures in Exhibit 4 – Coordination Procedures.
- 26.2 Subject to Article 26.3, Contractor shall not perform and shall not be entitled to any compensation for a Change without a Change Order issued by the Company to the Contractor for the Change.
- 26.3 At Company’s discretion and for expediency in extraordinary circumstances, the Project Manager may instruct Contractor in writing to proceed with a Change prior to the issue of a Change Order. Contractor shall perform the work for the Change expeditiously after receipt of such written instruction. Compensation for the Change performed as a result of an instruction made under this Article 26.3 shall be determined in accordance with the procedures in Exhibit 4 - Coordination Procedures.
- 26.4 Except to the extent expressly provided in a Change Order, no Changes shall vitiate or invalidate or be deemed to amend or be deemed to constitute a waiver of any provision of this Agreement. All Changes shall be governed by all the provisions of this Agreement. Changes will not result in any limitation of Contractor’s Warranty under Article 17. In the event of any change in Applicable Laws after the Effective Date which necessitates a Change, the provisions of this Article 26 shall apply.
- 26.5 Contractor shall commence with and shall execute a Change Order with all due diligence immediately upon receipt. Contractor will comply with the requirements of Exhibit 4 – Coordination Procedures in the development of the pricing, impacts on resources and schedule as it relates to such Change and present a comprehensive proposal covering the Change to Company for Approval.
- 26.6 In the event the Parties fail to reach agreement on the pricing and impacts on resources and schedule with respect to a Change, Contractor shall continue to execute the Change Order and the Dispute will be handled in accordance with Article 39.
- 26.7 If Contractor considers that a Change is necessary or desirable, Contractor may request a Change Order by submitting a proposal in writing to the Project Manager in accordance with the procedure set out in Exhibit 4 – Coordination Procedures.
- 26.8 If Contractor considers that an occurrence has taken place which constitutes a Change, then Contractor shall, within ten (10) Business Days, contact Company and request a Change Order, quantifying the request by providing Company with a fully completed proposal for a Change Order to the Project Manager in accordance with the procedure set out in Exhibit 4 – Coordination Procedures. If agreement is reached between the Parties that the occurrence constitutes a Change, then Company shall issue a Change Order in accordance with this Article 26. If Contractor fails to comply with the conditions

of this Article 26.8, it will relinquish its right to present Company with a Change proposal and waives any claim it may have for additional compensation and for an extension of time to complete a Milestone arising from the occurrence.

- 26.9 Changes shall be invoiced and paid for in accordance with the prices set forth in Article 12, Exhibit 2 – Compensation and Exhibit 4 – Coordination Procedures. Cost of the Work carried out under a Change Order will reflect any discounts, rebates, refunds or free materials credits earned with purchase of material or other goods and services charged under a Change. Should the quantity of the Work be decreased or any part of the Work be deleted, Contractor shall not be entitled to claim any damages therefor.
- 26.10 There shall be no increase in the Price or extension to the date for a delivery in Exhibit 11 – Milestone Schedule, nor will it be a Change if:
- (a) Any items that can reasonably be inferred as being included in the Work, including advancement and development of the design of Work components for which the Contractor is responsible under the Agreement, details of which may not be specifically defined;
  - (b) Corrections or additional services are required because of Contractor Group's breach of any of its representations, covenants, warranties, guarantees or other obligations under this Agreement, including corrections made necessary due to noncompliance with the Agreement, Applicable Laws or the requirements of Authorities; or
  - (c) Matters that might otherwise be grounds for alteration of a date for a Delivery but which coincide with any concurrent delay or other matter within Contractor's responsibility under this Agreement, provided, however, that Company, acting reasonably, may Approve a variation in the date for a Delivery in such circumstances without any modification or variation to the Price.

## **Article 27**

### **PUBLICITY COMMUNICATIONS**

- 27.1 Contractor agrees that all public relation matters arising out of or in connection with the Work shall be the sole responsibility of Company. Contractor shall obtain Company's prior Approval of the text of any announcement, publication or other type of communication concerning the Work.
- 27.2 The Contractor shall not advertise or issue any information, publication, document or article (including photographs or film) for publication or media releases or other publicity relating to the Work, the Agreement, the Project or Company's business and activities without the prior Approval of Company except as may be required by Applicable Law.
- 27.3 The Contractor shall refer to Company any enquiries from the media concerning the Work, the Agreement, the Project or Company's business and activities.

- 27.4 Contractor shall include in each Subcontract a provision that incorporates the terms of Article 27.1, 27.2 and 27.3 such that those terms shall apply to each Subcontractor.

### **Article 28**

#### **CONFIDENTIALITY AND INTELLECTUAL PROPERTY**

- 28.1 The term “Confidential Information” shall mean all information and data, in whatever form, which a Party directly or indirectly acquires from the other Party or from the performance of the Work (including events witnessed by either Party, its respective Group and the Personnel of each of the foregoing in connection with the performance of the Work) and includes without limitation, Contractor’s Proprietary Information. Confidential Information does not include information which:
- (a) prior to the time of disclosure or acquisition is lawfully in the public domain;
  - (b) after disclosure or acquisition becomes part of the public domain, through no act or omission on the part of a Party;
  - (c) prior to disclosure or acquisition was already lawfully in a Party’s possession without limitation on disclosure to others;
  - (d) was obtained by a Party from a third party who is lawfully in possession of such information and is not subject to a contractual or fiduciary relationship with the other Party with respect to such information; or
  - (e) were independently developed by the receiving Party without the use or consideration of Confidential Information.
- 28.2 Contractor shall not disclose Company’s Confidential Information (including photographs of activities of Company) to any third party nor use any Company’s Confidential Information, other than on Company’s behalf in accordance with the terms of this Agreement, without the Approval of Company. Notwithstanding the foregoing, Contractor may disclose Company’s Confidential Information if required by Applicable Laws in accordance with the terms of Article 28.6 below. Contractor shall promptly notify Company in advance of any such intended disclosure. Contractor shall adopt and follow precautionary measures with respect to Company’s Confidential Information to ensure that it is not disclosed to third parties by Contractor’s Personnel or Subcontractors, without the prior written consent of Company. Any consent given by Company shall apply only to the specific request for consent made by Contractor.
- 28.3 Company may disclose Contractor’s Confidential Information to its Affiliates and the directors, officers, employees, contractors, subcontractors, counsel, consultants and advisors to whom disclosure is required to enable the Company to perform its obligations hereunder or if required by Applicable Laws or in connection with the use, operation and maintenance of any property resulting from the performance of the Work and for the purposes of interfacing the Work with its own equipment or equipment supplied by third parties, provided Company has taken such reasonable and necessary precautions to prevent any of the foregoing parties from disclosing such information to

any third party. Company may disclose such necessary Contractor's Confidential Information to Company's bankers and to financial institutions from whom Company may seek financing for the Project.

- 28.4 To the extent Company is subject to the provisions of the Privacy Law, all documents and other records in the custody of or under the control of the Company and its Affiliates, and in relation to the Work in the custody of or under the control of Contractor, will be subject to the Privacy Law. Subject to the limitations of the Privacy Law and to the extent it applies to the Company or its Affiliates, the confidentiality obligations contained in this Agreement shall apply.
- 28.5 Each Party who discloses Confidential Information of another Party to its Personnel shall ensure that any such Personnel are informed of the confidential nature of the information disclosed and that such Personnel comply with the Party's obligations under this Article 28.
- 28.6 Article 28 does not apply to the disclosure of information by a Party in order to comply with any Applicable Law or legally binding order of any Court, Authority or rule of any recognized stock exchange on which it or any of its Affiliate(s) is listed, as long as prior to such disclosure the disclosing Party gives Notice to the other Party with full particulars of the proposed disclosure. In connection with any compelled disclosure hereunder, the disclosing Party shall cooperate with the other Party to make reasonable efforts to obtain from the party to whom disclosure is made written assurance that confidential treatment will be accorded to such portion of the Confidential Information as is disclosed.
- 28.7 If requested by Company, whether prior to or after the expiry or earlier termination of the Agreement, Contractor shall promptly deliver to Company all Confidential Information in the custody, possession or control of Contractor or any of its Personnel.
- 28.8 The breach of any of the conditions contained in this Article 28 will be deemed to be a material breach of the Agreement.
- 28.9 The terms of this Article shall survive the expiration or any termination of this Agreement.

#### **Article 29**

#### **PATENTS, TRADEMARKS, COPYRIGHTS**

- 29.1 Contractor grants to Company and its respective Affiliates a worldwide, non-exclusive, royalty-free, irrevocable, non-transferable perpetual license to use any of its intellectual property rights for the purposes of performance of the Work, the use, operation and maintenance of any property resulting from the performance of the Work and for the purposes of interfacing the Work with its own equipment or equipment supplied by third parties.
- 29.2 Contractor agrees to disclose promptly to Company, all inventions or concepts which it or its Personnel may make as a result of the performance of the Work or which are

wholly or in part based on or derived from the Work and which are based mainly or wholly on technical information supplied by Company. All rights, title and interest in and to such inventions, and to any design, specification, or Drawings produced therefrom in the course of the performance of the Work shall belong to Company. Contractor agrees to execute or have executed all documents and to perform or have performed all such lawful acts as may be necessary to perfect Company's title to such inventions and, subject to reimbursement of all reasonable costs incurred, to assist Company in obtaining and maintaining patent coverage, trademark or copyright thereon throughout the world.

- 29.3 Contractor shall not incorporate anything in the Work which involves the use of a copyright, trademark, patent or proprietary information of a third party for which Company has no license rights. Contractor agrees to indemnify and hold Company Group safe and harmless from and against any and all claims, losses, damages, costs (including legal costs), expenses and liabilities of every kind and nature arising out of or from any infringement or alleged infringement of patents or proprietary or protected rights covering the Work and any property, methods or processes furnished by Contractor. Contractor shall require its Subcontractors to provide the same rights and protections for Company Group that Contractor is required to provide pursuant to this Article 29.3.
- 29.4 Company agrees to indemnify and hold Contractor Group safe and harmless from and against any and all claims, losses, damages, costs (including legal costs), expenses and liabilities of every kind and nature arising out of or from any infringement or alleged infringement of patent or proprietary or protected rights covering property, methods or processes furnished by Company.
- 29.5 Subject to Article 29.1 and 29.2, all Drawings, assembly procedures, process specifications, computer programs, documents and information developed by Contractor for the purposes of the Agreement or which may arise out of the performance of the Agreement by Contractor shall be the property of the Company.
- 29.6 If, as a result of the performance of the Work, Contractor or its Personnel develop any inventions or concepts, all rights, title and interest in and to such inventions and to any design specification or drawings produced therefrom shall belong to Company.
- 29.7 The obligations set out in this Article 29 shall survive the expiration or termination of the Agreement.

### **Article 30 ASSIGNMENT**

- 30.1 Company may, without the Approval of the Contractor, assign the Agreement to Nalcor Energy, or any Affiliate of Nalcor Energy, or any Affiliate of Company or to any successor or replacement corporation or similar entity in connection with any merger, consolidation or other reorganization of Company or transfer of all or any part of Company's assets. In the event the Agreement is assigned to Nalcor Energy or an Affiliate of Nalcor Energy, the Contractor agrees to amend Article 40 of this Agreement

to substitute “Nova Scotia” with “Newfoundland and Labrador” and elsewhere in this Agreement to accord with such amended Article 40.

- 30.2 Company shall not assign this Agreement or any of its benefits or obligations thereunder to any other third party without Contractor's Approval, which Approval shall not be unreasonably withheld, conditioned or delayed.
- 30.3 Following any assignment by Company pursuant to this Article 30, this Agreement may be re-assigned to Company without Contractor's Approval.
- 30.4 Contractor shall not assign any of its interest in this Agreement without the Approval of Company. Such Approval shall not release or relieve Contractor from any representation or warranty given by Contractor or any obligation to be performed on the part of Contractor under this Agreement. Notwithstanding the foregoing, Contractor may at any time assign its interest in this Agreement to an Affiliate, provided that:
- (a) Contractor shall remain liable for any obligation to be performed on the part of Contractor under this Agreement if such Affiliate fails to fulfill any such obligation; and
  - (b) The Guarantee, Performance Bond and/or any Letter of Credit shall remain in place, remain effective and available to Company in the event the Affiliate fails to fulfill the Contractor’s obligation under this Agreement.
- 30.5 In the event of a transfer by sale, assignment, amalgamation, merger, trust, operation of law or otherwise of any shares, interest or voting rights of Contractor which may result in the change of identity of the Person exercising de facto control over Contractor, the provisions of Article 30.4 shall apply.

### **Article 31 FORCE MAJEURE**

- 31.1 Neither Contractor nor Company shall be responsible for any failure to fulfil any term or condition of this Agreement if and to the extent that such fulfilment has been delayed or rendered impossible by a Force Majeure occurrence as hereunder defined of which the other Party has been notified in accordance with this Article 31 and which is beyond the control and without the fault or negligence of the Party affected or its Personnel or Subcontractors, and which by the exercise of reasonable diligence the said Party is unable to provide against.

For the purposes of this Agreement, Force Majeure shall mean and be limited to the following:

- (a) acts of God, riot, war, acts of civil or military authority, epidemics, quarantine restrictions, acts of terrorism;

- (b) earthquake, flood, fire, storms in excess of a one hundred (100) year storm or other natural physical disaster, but excluding other weather conditions as such regardless of severity;
- (c) strikes at a national level, industrial disputes at a national level, which affect a substantial or essential portion of the Work;
- (d) a change in Applicable Law or the interpretation thereof (recognized by relevant courts or relevant government authorities) which change could not on the Effective Date reasonably have been foreseen) and which affects a substantial or essential portion of the Work; and
- (e) maritime and aviation disasters.

31.2 A Party may not rely upon the provisions of Article 31.1:

- (a) unless it shall immediately upon being made aware of the Force Majeure occurrence notify the other Party of such Force Majeure and of the obligations expected to be affected thereby;
- (b) unless it shall immediately take all such steps as may be commercially reasonable in the circumstances to cause the discontinuance of, and to minimize the effect of, the Force Majeure occurrence and resume performance of the obligation affected by the Force Majeure as soon as reasonably possible; and
- (c) to the extent that and for so long as there would be concurrent delay to work activities resulting from pre-existing matters within the responsibility or obligation of the Contractor under this Agreement.

31.3 Where Company claims Force Majeure and is entitled to rely upon the provisions of Article 31.1, then no compensation shall be payable to Contractor during the period that the Force Majeure occurrence continues to prevent performance by Company. Where Contractor claims Force Majeure and is entitled to rely on the provisions of Article 31.1, then no compensation shall be payable to Contractor during the period that the Force Majeure occurrence continues to prevent performance by Contractor. If the Contractor is delayed by an event of Force Majeure, then the Milestone Schedule may be extended for such reasonable amount of time as agreed between the Company and the Contractor subject to the terms and conditions of this Article 31.

31.4 If Contractor is prevented from or delayed in performing any of its obligations as a result of an event of Force Majeure for a cumulative period of more than thirty (30) days or a consecutive period of more than fifteen (15) days during the Term, Company shall have the right thereafter to immediately terminate this Agreement upon giving Notice thereof to Contractor and Company shall have no further liability whatsoever to Contractor (except payment for Work performed prior to such termination).

- 31.5 A Force Majeure occurrence shall in no circumstances entitle Contractor to an increase in the Price, rates set out in Exhibit 2 – Compensation and any other amounts payable under this Agreement.
- 31.6 During any period in which the performance of the Work is prevented because of Force Majeure, Contractor and Company shall mutually agree either (1) to continue maintaining Contractor’s Items and Personnel at or near the Worksite, in which case Company will reimburse Contractor at the rates outlined in Exhibit 2 - Compensation which is intended to cover only those expenses incurred by Contractor as a direct result of such prevention of performance, or (2) to demobilize Contractor’s Items and Personnel.

**Article 32**  
**DEFAULT AND TERMINATION**

- 32.1 Company may, without prejudice to any other right or remedy that it may have against Contractor, by giving Notice to Contractor, immediately terminate this Agreement in the event that any of the following shall occur:
- (a) Contractor breaches any of its obligations under Article 15 or Exhibit 4 – Coordination Procedures;
  - (b) Contractor becomes or is, in Company’s reasonable opinion, likely to become insolvent or to go into liquidation or any similar procedure in any jurisdiction or makes or proposes to make any arrangement with its creditors;
  - (c) Contractor fails to execute the Work in accordance with Exhibit 11 – Milestone Schedule and has failed to commence and diligently pursue actions reasonably necessary to mitigate or remedy such failure within ten (10) Business Days;
  - (d) the Work or any part thereof becomes an actual or constructive total loss prior to Delivery;
  - (e) Contractor fails to obtain or maintain the insurance required in accordance with Article 18; or
  - (f) Contractor is in breach of any other obligations hereunder, including without limitation, any terms, conditions, covenants, representations or warranties under this Agreement and has not commenced to rectify such breach within ten (10) Business Days after Notice thereof from Company or, after commencing to rectify such breach, fails to maintain diligent efforts or is unable to rectify such breach within sixty (60) days of its receipt of Company’s Notice.
- 32.2 If Company has provided ten (10) Business Days prior Notice to Contractor of the following applicable occurrence and Contractor has failed to remedy such occurrence, the Company may, without prejudice to any other right or remedy that it may have against Contractor, by giving Notice to Contractor, immediately terminate this Agreement in the event that any of the following shall occur:



- (a) Contractor fails to make prompt payment for labour, materials, money, skill or other services provided to Contractor by third parties in the performance of the Work;
- (b) Contractor subcontracts or delegates any portion of the Work, or its obligations hereunder, without Company's Approval in accordance with Article 6.2;
- (c) Contractor assigns this Agreement without Company's Approval pursuant to Article 30.4;
- (d) Contractor fails to procure or maintain the Guarantee, Performance Bond and/or the Letter of Credit in accordance with Article 7; or
- (e) Contractor disregards reasonable instructions of Company.

32.3 In the event Company terminates this Agreement pursuant to Article 32.1 or 32.2, Company may take title and possession of all Work and complete the performance of the Work by whatever method it may deem expedient. In such case:

- (a) Company shall have no liability whatsoever to Contractor, except for any amounts properly payable for Work performed by the Contractor to the satisfaction of the Company up to the date of termination of this Agreement, subject to Company's rights of set off;
- (b) subject always to considerations of safety and of the environment, Contractor shall discontinue performance of the Work and shall comply in full with Company's instructions regarding such termination;
- (c) Contractor shall use its best efforts to assign to Company or its nominee any Subcontracts, including without limitation any contracts related to Contractor Personnel or any equipment required to complete the Work;
- (d) Contractor shall promptly deliver to Company all data, calculations and other materials associated with the Deliverables, all on an appropriate medium, together with all drawings, specifications and other documents prepared or obtained by Contractor in connection with the Work and shall carry out Company's instructions concerning any cancellation or assignment of Subcontracts, purchase orders and any other matters arising out of this Agreement which Company decides are necessary or expedient; and
- (e) Contractor shall allow Company, or its nominees, full right of access to the Worksites so as to remove or perform Work.

32.4 Notwithstanding any other provision of this Agreement:

- (a) Company may in its sole and absolute discretion and for any reason, including convenience of Company and without any fault or default on the part of the

Contractor, terminate this Agreement effective immediately upon giving Notice to the Contractor or effective at a future date specified in the Notice; and

- (b) subject to the Contractor complying with its obligations to protect persons and property from damage, the Contractor shall cease the performance of the Work immediately upon receiving that Notice or upon any later date specified in that Notice.
- 32.5 Company may, without prejudice to any other right or remedy that it may have against Contractor, terminate this Agreement in the event that Contractor is prevented from or delayed in performing any of its obligations as a result of an event of Force Majeure pursuant to Article 31.4 by giving Notice of termination to the Contractor.
- 32.6 In the event Company terminates the Agreement pursuant to Article 32.4 or Article 32.5, Company may take title and possession of all Work and complete the performance of the Work by whatever method it may deem expedient. In such case:
- (a) For Milestone Work and a lump sum Change Order, Company shall reimburse Contractor the aggregate value of all achieved and Approved Milestones less the aggregate value of all amounts paid in relation to such achieved and Approved Milestones at the time of termination. Company shall also pay Contractor a proportionate value of any Milestone or a lump sum Change Order in progress, wherein such proportionate value is determined by demonstrated Work progress, as agreed between the Parties, associated with the achievement of such Milestones or lump sum Change Order.
  - (b) For a reimbursable Change Order, Company shall reimburse Contractor for actual Work performed up to the date of termination, subject to Contractor compliance with Article 12.4 (b).
  - (c) Contractor shall, prior to paying or agreeing to pay any cancellation charges pursuant to such Subcontracts, contracts and other agreements, submit to Company the amount of such charges for Approval. If and to the extent that Company does not Approve the amount of such charges, Contractor shall not pay the same and the Parties shall jointly negotiate with the relevant third party or parties in an attempt to reduce the amount thereof.
  - (d) In the event that costs incurred in the performance of the Agreement, together with the cancellation charges applicable to Subcontracts, are less than the amounts which have been previously paid to Contractor on account under the Agreement, Contractor shall reimburse Company in the amount of the difference, within ten (10) Business Days of demand following determination of the amount thereof.
  - (e) In the event that the costs incurred in the performance of the Agreement are more than the amounts which have previously been paid to Contractor on account under the Agreement, Company shall reimburse Contractor in the

amount of the difference within ten (10) Business Days of demand following determination of the amount thereof provided that the Contractor has satisfied the requirements of paragraph (g) of this Article 32.6. In no event shall the aggregate of the amounts paid to Contractor under this Article exceed the Price.

- (f) Subject always to considerations of safety and of the environment, Contractor shall discontinue performance of the Work and shall comply in full with Company's instructions regarding such termination.
- (g) Contractor shall promptly deliver to Company all data, calculations and other materials associated with the Deliverables, all on an appropriate medium, together with all drawings, specifications and other documents prepared or obtained by Contractor in connection with the Work and shall carry out Company's instructions concerning any cancellation or assignment of Subcontracts, purchase orders and any other matters arising out of this Agreement which Company decides are necessary or expedient.
- (h) Contractor shall allow Company, or its nominees, full right of access to the Worksites so as to remove Work.

32.7 The Parties acknowledge and confirm their respective obligations to make commercially reasonable efforts to mitigate any damages or costs arising from any termination of this Agreement.

### **Article 33**

#### **BANKRUPTCY, INSOLVENCY AND RECEIVERSHIP**

- 33.1 If Contractor or its assets becomes the subject of any proceeding (whether initiated by Contractor or another Person) under bankruptcy or insolvency laws, including proceedings under the *Companies' Creditors' Arrangement Act* (Canada); Contractor becomes the subject of any proceeding for liquidation, reorganization or winding-up (whether initiated by Contractor or another Person), a receiver or receiver-manager of all or any part of Contractor's assets is appointed by a court of competent jurisdiction or by any of its creditors; Contractor commits an act of bankruptcy as defined in the *Bankruptcy and Insolvency Act* (Canada) or commits any other act or omission which would entitle any of Contractor's creditors to initiate a process or proceeding to take possession of any of Contractor's assets or to have any of Contractor's assets distributed among such creditors, Company shall have the right, without limiting any of its other rights or remedies, to terminate this Agreement immediately by giving Notice of termination to Contractor.
- 33.2 If this Agreement is terminated by Company under Article 33.1, Company shall be entitled to withhold further payments to Contractor and set-off those payments against any amounts which Contractor owes or will owe to Company under this Agreement or any other agreement and Company reserves to itself all other rights, remedies and counterclaims to which it may be entitled hereunder or at law or equity.

**Article 34**  
**SUSPENSION**

- 34.1 Company may at any time during the Term, at Company's sole discretion for any reason, suspend performance of the Work, or any part thereof, by giving Notice to Contractor (such period of suspension hereinafter a "Suspension Period"). The Work shall be resumed by Contractor on a date as may be specified by Company in a Notice to Contractor. Company shall not be liable for any damages or losses, including loss of profits or loss of opportunity, on account of suspension of the Work. During the Suspension Period, Contractor shall properly protect and secure the Work as Approved in advance by Company.
- 34.2 Subject to Article 34.3 and Article 34.4, Company shall reimburse Contractor its reasonable costs (which Contractor shall use its best efforts to mitigate) incurred in compliance with any suspension order and associated reinstatement order (the "Suspension Expenses"). In no event shall Contractor be entitled to any compensation for loss of profits or damages caused by such suspension or reinstatement order. Any such additional costs and expenses are to be subject to audit in accordance with Article 14 to the satisfaction of Company.
- 34.3 Company shall have the right to suspend performance of the Work for as long as necessary to prevent or stop any contravention of Article 15. During such period of suspension, no Suspension Expenses shall be payable to Contractor by Company.
- 34.4 In case of suspension due to Contractor's failure to perform the Work in accordance with Article 3, Contractor shall not be entitled to Suspension Expenses incurred from the moment the Notice of suspension was given until a reinstatement order (if any) is given by Company but shall remain liable, without prejudice to Company's other rights under this Agreement.
- 34.5 Contractor shall cause all terms of this Article to be inserted in all Subcontracts so that Company and Contractor shall have the rights herein set forth with respect to all Subcontractors.

**Article 35**  
**NOTICES**

- 35.1 Unless otherwise specified in the Agreement, any Notice given or made pursuant to the Agreement shall:
- (a) be in writing;
  - (b) be marked to the attention of the Contractor Representative, in the care of the Contractor, or to the Project Manager, in the case of the Company;
  - (c) where given by Company, be signed or authorized by either Project Manager, an officer, a director or company secretary of Company, or a duly authorized representative of Company;

- (d) where given by the Contractor, be signed or authorized by either Contractor's Representative, an officer, a director or company secretary of the Contractor, or a duly authorized representative of the Contractor; and
- (e) be delivered by prepaid post, by hand or by facsimile to the Party to whom the Notice is addressed at its address specified in Article 35.3 or such other address as that Party may have notified to the other Party.

35.2 A Notice will be taken to be duly given:

- (a) in the case of delivery by hand, when delivered;
- (b) in the case of delivery by post, ten (10) Business Days after the date of posting (if posted to an address in the same country) or twenty (20) Business Days after the date of posting (if posted to an address in another country);
- (c) in the case of delivery by facsimile, on receipt by the sender of a transmission control report from the sending machine showing the relevant number of pages and the correct destination fax machine number or name of the recipient and indicating that the transmission has been made without error.

35.3 Any Notice given or made under the Agreement shall be delivered to the intended recipient by hand, post or fax to the address or fax number below or the address or fax number last notified by the intended recipient to the sender:

- (a) to Company:

ENL Maritime Link Inc.  
9 Austin Street  
St. John's, NL A1B 4C1

Attention:  
Fax No.:  
E-mail:

- (b) to the Contractor:

Attention:  
Fax No.:  
E-mail:

35.4 The Parties may use electronic mail for day to day communication but electronic mail shall not be used for and will not constitute Notice under the Agreement where the Agreement expressly requires that a Notice be given.

35.5 Any technical communications pertaining to the Work shall be between Representatives appointed by the Parties and designated in Exhibit 4 – Coordination Procedures. Each

Party's Representative shall, subject to the terms of this Agreement, be authorized to act on behalf of such Party in all technical matters concerning the Work but not to commit or bind a Party to a Change or amendment of the Agreement.

- 35.6 Except where expressly provided otherwise in the Agreement, verbal communications will not constitute formal communication or Notice under the Agreement and neither Party has any obligation to act on any verbal communication or instruction unless and until it is confirmed in writing. Any action taken by a Party based on verbal communications, instructions or assurances will be at that Party's sole risk and will be without liability to or recourse against the other Party.
- 35.7 A Party may, from time to time, give Notice to the other Party of any change to its address.

### **Article 36**

#### **ENTIRETY OF AGREEMENT, NON WAIVER**

- 36.1 This Agreement, as executed by authorized representatives of Company and Contractor, constitutes the entire agreement between the Parties with respect to the matters dealt with herein. This Agreement replaces and supersedes all prior agreements, documents, writings and verbal understandings between the Parties in respect of the Work and there are no oral or written understandings, representations or commitments of any kind, express or implied, which are not expressly set forth herein.
- 36.2 No modification of this Agreement by Contractor or Company, either before or after the execution of this Agreement, shall be of any force or effect unless such modification is in writing, is expressly stated to be a modification of this Agreement and is signed by duly authorized representatives of each of the Parties, with the exception of Exhibits where changes to same may be issued solely by Company.
- 36.3 No waiver of any provision of this Agreement shall be of any force unless such waiver is in writing, is expressly stated to be a waiver of a specified provision of this Agreement and is signed by the Party to be bound thereby. Either Party's waiver of any breach of, or failure to enforce, any of the covenants, conditions or other provisions of this Agreement, at any time, shall not in any way affect or limit that Party's right thereafter to enforce or compel strict compliance with every covenant, condition or other provision hereof.

### **Article 37**

#### **SEVERABILITY**

- 37.1 The illegality or unenforceability of any provision of this Agreement shall in no way affect the legality or enforceability of any other provision hereof. Any illegal or unenforceable provision shall be deemed severed from this Agreement and the remainder of this Agreement shall be construed and enforced as if this Agreement did not contain such illegal or unenforceable provision.

**Article 38**  
**SURVIVAL OF PROVISIONS**

- 38.1 The following provisions of this Agreement shall survive the termination or expiration of this Agreement and remain in full force and effect: Articles 7.1, 7.3, 9.3, 12.6, 12.7, 12.9, 37.1, and Article 13, Article 14, Article 17, Article 21, Article 23, Article 24, Article 28, Article 29, Article 32, Article 40 and Article 41.

**Article 39**  
**DISPUTE RESOLUTION**

- 39.1 If any dispute, controversy, claim, question or difference of opinion arises between the Parties under this Agreement including an interpretation, enforceability, performance, breach, termination or validity of this Agreement (“Dispute”), the Party raising the Dispute shall give Notice to the other Party in writing within ten (10) days of the Dispute arising unless this Agreement provides another time period to provide such Notice, and such Notice shall provide all relevant particulars of the Dispute.
- 39.2 Within ten (10) days following delivery of the Notice of Dispute, the Parties shall, acting in good faith and a commercially reasonable manner, attempt to resolve the Dispute in the following manner:
- (a) At a meeting of the senior project managers for each of the Company and the Contractor;;
  - (b) if not resolved by project managers, the project sponsors or representative Vice Presidents for each of the Company and its Contractor will meet within ten (10) days following the meeting of the project managers; and
  - (c) if not resolved by project sponsors or representative Vice Presidents, the Chief Executive Officers for each of the Company and Contractor will meet within fifteen(15) days following the meeting of the project sponsors or representative Vice Presidents.
- 39.3 If the Dispute is not resolved by the Parties within forty-five (45) days from the date of delivery of the Notice of Dispute, the Parties agree to submit the dispute to binding arbitration, pursuant to the terms of the *Commercial Arbitration Act* (Nova Scotia). In particular, the Parties agree to utilize the arbitration procedure attached as Schedule "A" to the *Commercial Arbitration Act* (Nova Scotia) in the conduct of the arbitration. The Party wishing to have any dispute submitted to arbitration (the "**Claimant**") will give notice to the other Party (the "**Respondent**") specifying the particulars of any issue in dispute and proposing the name of the individual it wishes to be the single arbitrator. Within fifteen (15) days thereafter, the Respondent will give notice to the Claimant advising whether the Respondent accepts the arbitrator proposed by the Claimant. If notice is not given within the fifteen (15) day period, the Respondent will be deemed to have accepted the arbitrator proposed by the Claimant. In the event that the parties can not agree on a single arbitrator within the fifteen (15) day period, the arbitrator will be selected in accordance with the *Commercial Arbitration Act* (Nova Scotia). No such

arbitrator will have previously been employed by either party and will not have a direct or indirect interest in either party or the subject matter of the arbitration. The cost of the arbitration (excluding a party's legal fees and disbursements) will, unless otherwise ordered by the arbitrator or the panel, be borne equally by the Parties. The decision of the arbitrator will be final and binding and the beneficiary of any award of the arbitrator may bring proceedings in any jurisdiction to enforce the award or any judgment enforcing the award. The bringing of such proceedings in one or more jurisdictions will not preclude the bringing of enforcement proceedings in any other jurisdiction. In connection with any such proceeding, each Party waives any right to de novo review of the award against that Party.

- 39.4 Notwithstanding the existence of a Dispute and the referral of the Dispute to the resolution procedures in this Article 39, Company and Contractor shall, to the extent reasonably possible, continue to perform their obligations under this Agreement without interruption or delay. The continuation of such performance shall in no way amount to a waiver of, or in any way prejudice, the position that is taken by the Parties in the Dispute. There shall be no extension to the date for completion of a Milestone by reason that a Dispute has been referred to the procedures in this Article 39.

#### **Article 40**

#### **GOVERNING LAW AND JURISDICTION**

- 40.1 This Agreement shall be construed and the relations between the Parties determined in accordance with the Applicable Laws of Nova Scotia and Canada, including any limitation periods, and reference to such Applicable Laws shall not, by application of conflict of laws rules or otherwise, require the application of the Applicable Laws in force in any jurisdiction other than Nova Scotia. The Parties hereby irrevocably attorn to the Courts of the Province of Nova Scotia and Canada for the resolution of any dispute arising hereunder.

#### **Article 41**

#### **LIENS AND CLAIMS**

- 41.1 Contractor shall defend, protect, release, indemnify and hold Company Group harmless from and against, and shall keep Contractor's Items, Company's property, Worksites and Work thereon free and clear of all liens, charges, claims, assessments, fines and levies suffered, created, or committed by Contractor Group, save only liens or encumbrances created with the prior written consent of Company voluntarily in favour of financial organizations in connection with Contractor's obtaining reasonable, prudent and necessary financing. Company may post on any of Contractor's property such notices as it may desire to protect itself against such liens, claims, assessments, fines and levies.
- 41.2 Without prejudice to the provisions of this Article 41, Contractor shall prevent the imposition of any liens, claims, encumbrances or attachments by or on behalf of any third party against the Contractor's Items and Work, wherever located, or any portion thereof and any liens or attachments which nevertheless are imposed shall be promptly settled by Contractor in the ordinary course of business to the Standard of a Prudent



Contractor and Contractor shall indemnify, defend and hold Company Group harmless from and against the same.

- 41.3 Notwithstanding the efforts of Contractor hereunder, if Company suffers costs or expenses or becomes liable for payment as a result of the imposition of such liens or attachments, then without prejudice to any other rights or remedies available to Company, Company shall have the right to withhold and set off an amount equal to any such costs, expenses or payments incurred or made by Company from any payments due to Contractor hereunder.

**Article 42**  
**TIME OF ESSENCE**

- 42.1 Time is of the essence in this Agreement.

**Article 43**  
**ENUREMENT**

- 43.1 This Agreement shall be binding upon the Parties, their permitted assignees and successors.

**Article 44**  
**COUNTERPARTS**

- 44.1 This Agreement may be executed in any number of counterparts and any Party may transmit by fax or email in portable document format to the other Party a copy of this Agreement executed by that Party, the receipt of which shall have the same force and effect as if the original thereof had in fact been delivered at the same time.
- 44.2 Any original, fax copy, portable document format or photocopy of this Agreement bearing one or more signatures on behalf of a Party shall be admissible against that Party in any legal proceeding as evidence of the execution and delivery of this Agreement by that Party and without the requirement to produce an executed original of the Agreement.
- 44.3 Each person signing the Agreement as an authorized officer of a Party hereby represents and warrants that he or she is duly authorized to sign the Agreement for that Party and that the Agreement will, upon having been so executed, be binding on that Party in accordance with its terms.

**EXECUTED AS AN AGREEMENT:**

**For and on behalf of ENL Maritime Link Inc.**

\_\_\_\_\_  
Signature of Authorized Officer

\_\_\_\_\_  
*Signature of Authorized Officer*

\_\_\_\_\_  
Name of Authorized Officer

\_\_\_\_\_  
*Name of Authorized Officer*

**For and on behalf of [INSERT CONTRACTOR NAME]**

\_\_\_\_\_  
Signature of Authorized Officer

\_\_\_\_\_  
*Signature of Authorized Officer*

\_\_\_\_\_  
Name of Authorized Officer

\_\_\_\_\_  
*Name of Authorized Officer*

TK-2435 (11083456.4)

**EXHIBIT 1**

**SCOPE OF WORK**

The Scope of Work shall be composed of three (3) sections:

Exhibit 1A – Scope of Work

Exhibit 1B – Cable System Performance Specification

Exhibit 1C – Vessel Performance Specification

**EXHIBIT 1A**

**SCOPE OF WORK**

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## **1.0 INTRODUCTION**

### **1.1 Purpose**

This Scope of Work defines the minimum requirements for performance of the Work for the Maritime Link located between the provinces of Newfoundland and Labrador (NL) and Nova Scotia (NS) on the east coast of Canada.

The Works shall be subject to review and Approval by independent verifying bodies as Company deems necessary for execution and Delivery of the Work.

### **1.4 Codes, Standards, Rules and Regulations**

Contractor shall conform to Applicable Laws associated with the Work. The latest revisions effective upon commencement of the Agreement (including supplements) shall be applied unless otherwise indicated by Company and are included in this Scope of Work, Exhibit 1B - Cable System Performance Specifications and Exhibit 1C – Vessel Performance Specification.

Contractor shall be responsible for bringing to the attention of Company the impact of any subsequent revisions or published amendments to the referenced codes, standards, rules and regulations, which have a bearing on execution of the Work. In the event of redundant or conflicting information is found within the codes, standards, rules or regulations, the most stringent shall apply.

## **2.0 SCOPE OF WORK**

### **2.1 Summary**

Contractor is responsible for design, supply, installation and protection of the Maritime Link Project cable system from termination at the transition compound at Cape Ray, Newfoundland to termination at the transition compound at Point Aconi, Nova Scotia as defined herein this Exhibit 1 – Scope of Work.

The Work to be performed by Contractor shall, without limitation, include the project management, administration, design, procurement, manufacturing, construction, testing, transport, delivery, maintenance prior to final commissioning, storage, preservation, installation, protection, cable system pre-commissioning and HVDC transmission system commissioning support, as further described below.

Contractor shall, without limitation, provide all required items, Personnel, supervision, services, commodities, facilities, material, plant, equipment, transportation, storage, preservation, vessels, installation aids, tools, and systems



necessary for the compliance with and fulfillment of all Contractor obligations to perform the Work.

Contractor shall interface with Company and Company's Other Contractors as required to perform the Work in accordance with the provisions herein this Exhibit 1 – Scope of Work.

Contractor is responsible for supply of, without limitation, all materials, Personnel, equipment and consumables necessary for performance of the work unless otherwise specified by the Company.

Contractor shall perform the Work in accordance with the Agreement.

The scope of Work shall include:

- a) Design, manufacture, supply and installation of HVDC land and submarine cables, including accessories, complete with embedded fibre optics and DTS system;
- b) Design, manufacture, supply and installation of HVDC cable terminations, joints, transition bays and surge arresters;
- c) Design, manufacture, supply and installation of all ancillary equipment required to perform the Work;
- d) Testing throughout manufacturing and installation process of all supplied components required to perform the Work;
- e) Final cable route definition and cable length determination within Company corridor defined in Exhibit 5 – Company Supplied Items;
- f) Design, manufacture, supply and installation of cathodic protection systems;
- g) Design, manufacture and supply of spare HVDC cable, spare fibre optic cable, testing, and spare accessories;
- h) Design, manufacture and supply of submarine cable turntable/carousel and land cable reel, inclusive of spare cable, to Company nominated site on the island of Newfoundland or Nova Scotia
- i) All permits, consents and licenses required to perform the Work, with the exception of Environmental Assessment Approval, Department of Fisheries and Oceans authorizations, land access agreements and submarine cable route authorizations which shall be obtained by the Company;
- j) Provision of required project documents as further detailed in Exhibit 7 – Deliverable List, Contractor defined Master Document Register;
- k) Design and management of construction of cable landfall sites at the island of Newfoundland and Nova Scotia cable landing locations, at Company's discretion;

- l) Installation of cable at landfall locations, including, without limitation, all accessories, ancillary equipment and installation aids required to perform the Work;
- m) Design and construction of land cable protection, including trenching and suitable backfill materials;
- n) Design and construction of appropriate submarine cable protection along the cable route from submarine landfall exit on Newfoundland and Labrador (NL) side to submarine landfall exit on Nova Scotia (NS) side;
- o) Load out and delivery of cable system to installation site, including, without limitation, all accessories and ancillary equipment required to perform the Work;
- p) Pre and post installation seabed levelling and span rectification;
- q) Cable system post installation and post termination testing;
- r) Onsite HVDC transmission system commissioning support;
- s) Training seminars for operation of equipment including DTS and fault finding systems; and
- t) Design, manufacture, supply, installation, protection and testing of external Fibre optic communication system (optional scope).

### **2.1.1 Submarine and Land Cable**

Contractor shall supply and install two (2) HVDC submarine cables as defined herein this Exhibit 1 - Scope of Work. The total length of cable for service, exclusive of spares, shall be subject to detailed analysis and definition of the selected cable route by Contractor. Contractor shall determine the total length of cable of which shall consider horizontal and vertical deviations, landfall allowances for either a horizontal directionally drilled or trenched landfall, and cable allowances for terminations and joints.

Appropriate over length allowances shall be defined by Contractor pending Company review and Approval of detailed analysis and installation methodology.

Contractor shall supply and install land cable from each cable onshore landfall interface location to a Company provided transition compound location for termination, as defined herein this Exhibit 1 - Scope of Work. Each transition compound shall be located approximately 1 km from onshore cable landfall exit locations as defined in Exhibit 5 – Company Supplied Items.

Land and submarine HVDC cables shall include embedded fibre optic cable up to and including DTS unit in transition compounds. The fibre optic cable will be utilized for distributed temperature sensing up to five (5) km from transition compound at Newfoundland and Nova Scotia locations.

### **2.1.2 Accessories**

Contractor shall supply accessories, exclusive of spares, without limitation, as follows:

- a) Four (4) cable terminations and ancillary equipment for termination of cable in transition compound.
- b) Termination support stand to allow mounting of termination in transition compound;
- c) Surge arresters as required at terminations;
- d) Land-submarine cable transition joints;
- e) Cable armor anchors and transition bays;
- f) Submarine joints, as required;
- g) Land joints, as required;
- h) Cathodic protection equipment, as required;
- i) Fibre optic DTS system equipment;
- j) All installation aids, accessories and ancillary equipment required to perform the work.

### **2.1.3 Submarine Route Selection**

Contractor shall design final cable route within Company provided corridor included in Exhibit 5 – Company Supplied Items. Contractor shall select a route that minimizes natural and anthropogenic hazards including natural sea bed sediment mobility. The final cable route shall be submitted to Company for Approval.

Contractor shall ensure seabed along final cable route is within cable design parameters and optimize route as required. Contractor shall provide an analysis and justification of allowable cable span lengths and shall perform pre and post installation seabed leveling and span rectification to ensure cable integrity for life of design.

Any deviation from the corridor defined in Exhibit 5 – Company Supplied Items shall be supplied to Company for review and Approval.

### **2.1.4 Cable Protection**

Contractor shall provide protection of submarine cable from potential damage due to identified fishing activity, ice and environmental factors. Contractor shall design and construct submarine cable protection along affected cable route segments from submarine landfall exit on Newfoundland and Labrador (NL) side to submarine landfall exit on Nova Scotia (NS) side. Fishing activity and ice studies have been

performed by Company and the reports can be referenced in Exhibit 6 - Company Supplied Document Listing. Submarine protection types and quantities required to protect the cable shall be designed and constructed by Contractor.

Considerations for submarine protection type shall include, without limitation, hydraulic trenching, mechanical trenching, rock placement, mattresses, grouting and external cable casing.

Contractor shall design and construct land cable protection from onshore landfall exit to transition compound at both Newfoundland and Nova Scotia sites, including trench backfill if required.

External influences required for input into cable landfall and protection design are defined in Exhibit 6 – Company Supplied Document Listing and include, without limitation, fishing activity, pack ice, sediment transfer and environmental conditions.

#### **2.1.5 Cable Landfall**

Company is performing detailed cable landfall feasibility studies to allow Company definition of cable landfall type and location. Company shall develop a conceptual design definition of cable landfall type, location and exit locations and provide to Contractor upon completion of feasibility study, as an addendum to this RFP expected in March 2012.

At Company's sole discretion, Contractor shall design and manage the construction of cable landfall sites at both the Newfoundland and Labrador (NL) and Nova Scotia (NS) locations while adhering to all Company requirements and Applicable Laws. Landfall design and engineering documentation shall require Company Approval prior to commencement of landfall construction.

Contractor shall design and perform cable installation at landfall sites as per Company defined landfall type and location. Contractor shall be responsible for design and supply of accessories, ancillary equipment and installation aids required for cable installation and fiber optic cable installation (optional) at landfall.

All Subcontractors performing landfall design and construction management on behalf of Contractor shall require Company Approval prior to the commencement of the Work.

Details of regions for planned landfall locations can be referenced in Exhibit 6 – Company Supplied Items.

### 2.1.6 Transition Compound

Company will supply transition compound locations as defined in Exhibit 5 – Company Supplied Items.

Contractor shall be responsible for installation of terminations within transition compounds including, without limitation:

- a) Supply and installation of termination up to and including connector on top of terminators, surge arrestors up to and including connector on top of surge arrestors and support stands;
- b) Installation of land cable into transition compound, including supply of interface with transition compound;
- c) Termination HVDC cable within transition compound;
- d) Breakout and termination of fibre optics, complete with DTS unit, in transition compound;
- e) Installation of interface between surge arresters and overhead transmission lines, including a suitable mounting arrangement for surge arrestors;
- f) Installation of all accessories and supply of ancillary equipment required for cable and DTS fibre optic termination; and
- g) Breakout and termination of communications fibre optics in transition compound, including junction box (Optional Scope).

### 2.1.7 Spare Equipment

Contractor shall supply spare cable and equipment as part of the cable supply as follows:

- a) Five thousand (5000) meters submarine cable, continuous length on turntable/carousel;
- b) Six hundred (600) meters land cable on transportable reel;
- c) Two (2) terminations;
- d) Two (2) surge arrestors;
- e) Four (4) submarine cable joint kits;
- f) Two (2) transition joint kits;
- g) Four (4) land cable joint kits;
- h) One (1) cable armor anchor & transition bay;
- i) One (1) DTS unit
- j) Four (4) cable end cap kits
- k) Four (4) submarine cable pulling eye kits

A complete list of recommended spares, including the listing above, shall be provided by Contractor for Approval.

Contractor shall supply spare submarine cable loaded onto turntable/carousel and spare land cable loaded onto reel, to a Company nominated site in the areas of Sydney, NS or Port Aux Basques, NL.

Spares shall be complete with manuals for the equipment and installed submarine cable system, which shall include without limitation, storage requirements, fault finding techniques, installation and operation and maintenance procedures, repair procedures, and methods for installation of all spares and accessories. All spare documentation shall be provided to Company for Approval.

### **2.1.8 Fibre Optic Communications (Optional Scope)**

Contractor shall design, supply and install submarine fibre optic cable communication system from transition compound on Newfoundland side to transition compound on Nova Scotia side as optional scope. Communications system shall be inclusive of, without limitation, submarine fibre optic cables and junction box installed within transition compounds, pre commissioning, commissioning and protection along fibre optic route and at landfall locations.

Contractor shall supply all personnel, materials, consumables, documentation and equipment required for supply and installation of the fibre optic communications system.

Contractor shall define fibre optic cable route within Company supplied cable corridor as defined in Exhibit 5 – Company Supplied Items.

## **2.2 Consents, Authorization and Permits**

Contractor shall perform Work in compliance with the Environmental Assessment Release and Department of Fisheries and Oceans authorizations which are to be obtained and maintained by Company.

Contractor shall obtain and maintain all other authorizations, permits, dispensations, consents and licenses, required by Applicable Laws to enable it to perform the Work and which are required to be or can be obtained in Contractor's name.

Without limiting requirements contained elsewhere in the Agreement, Contractor responsibility shall include customs clearance, import permits, work validations,

work permits and operating licenses in the port of mobilization/demobilization, and other requirements that are essential to the Work during all phases of the Work.

### **2.3 Interfaces and Coordination**

Contractor shall, as part of the services related to interface management, manage and coordinate all interfaces both internally and with Company, Contractors, Subcontractors and Company's Other Contractors. Contractor shall appoint a technical interface coordinator whom shall be responsible for management of interface activities as the Contractor's focal point for interface coordination, response, close out and reporting. The Company and Contractor coordinators shall manage all interfaces during execution of the Work.

Contractor shall be responsible for preparation and management of all interface documentation, including, without limitation, minutes of meetings, interface registers, datasheets and drawings. All interface documentation shall be provided to Company for Approval.

### **2.4 Scheduling and Planning**

Contractor shall meet all planning and scheduling requirements for all Work in accordance with and as otherwise defined in the requirements of Exhibit 4 – Coordination Procedure.

### **2.5 Logistics**

Contractor shall be responsible for transport of all Contractor's Spreads, Contractor's Items, Deliverables, spares, Contractor Personnel, cargo, freight and any importation required equipment in Contractor's care, custody and control.

Contractor shall be responsible, without limitation, for logistics support during all phases of the Work and shall provide required Personnel. Contractor shall be responsible, without limitation, for providing all required fuel, catering supplies, fresh water, all consumables and transportation required for performance of the Work.

Contractor shall be responsible for arrangement of services required for Contractor's Spreads to enter and depart the specified port facilities during the execution of the Work.

Any logistics requirements which result in delays to the Contractor shall not constitute Change to the Work.

Contractor shall provide emergency response services in accordance with Company's standard response requirements during the offshore phase of the Work as per 'Health and Safety Management Plan' as defined in Exhibit 6 – Company Supplied Document Listing.

## **2.6 Company Supplied Items**

Contractor and Company will agree on the acceptance criteria for all Company Supplied Items, defined in Exhibit 5, prior to award of Contract.

Contractor shall take receipt and acceptance of Company Supplied Items defined in Exhibit 5 – Company Supplied Items prior to commencement of installation.

## **2.7 Company Site Access**

Contractor shall be given access to perform the Work in the Worksite as defined in Exhibit 5 – Company Supplied Items.

Contractor's Spreads may have to work in close proximity with other vessels in the offshore installation area. Contractor shall take account of, and make due provision for, the presence of other activities in the offshore Worksite including supply vessels, survey vessels, support vessels, fishing vessels and any other vessel in the vicinity, during the performance of the Work.

Contractor shall comply with all Company's requirements for operations in the offshore Worksite including the requirements defined in Exhibit 6 – Company Supplied Document Listing.

In the event of conflict of activities between Contractor's Spreads and other vessels, Company shall decide the operational priorities and the order in which the respective parts of the Work shall be carried out and this shall not constitute a change.

## **3.0 MANAGEMENT, ADMINISTRATION AND PROJECT CONTROL**

### **3.1 General**

Contractor shall provide all necessary Personnel, services, facilities, systems, procedures and any other direct or indirect services necessary for Contractor to manage, supervise, administer, execute and document the Work or in support of the Work as defined in this Agreement, including:



- a) Management and administration of the Work to ensure that the Work is performed in accordance with the Agreement, and to the satisfaction of Company and Company's Other Contractors;
- b) Project organization with all necessary means and facilities to perform the Work;
- c) Co-ordination of progress meetings with Company in accordance with Exhibit 4 – Coordination Procedures;
- d) Supervision and control of all engineering, procurement, manufacturing, testing and installation;
- e) Development of, and compliance with, project management and administration procedures to meet all requirements of the Agreement;
- f) Quality assurance;
- g) Daily, weekly and monthly reporting of the status and progress of the Work including the status and progress of Subcontractors in accordance with Exhibit 4 – Coordination Procedures;
- h) Reporting to Company throughout engineering and manufacturing operations;
- i) Reporting to Company, including daily vessel and site reports for Contractor's Spreads during Worksite operations;
- j) Document control, including issue and reproduction of all documentation;
- k) Engineering data management;
- l) Procurement and materials management;
- m) Environment, health, safety and security management;
- n) Accounting;
- o) Administration and support services, including all telecommunications, computer and courier services;
- p) Provision of offices, services, facilities;
- q) Planning and scheduling;
- r) Mechanical, installation and construction completion;
- s) Testing;
- t) Management of Subcontractors as required to maintain schedule and quality requirements of the Project;
- u) Where necessary assist Company in obtaining Approvals in accordance with Applicable Laws and the requirements of the Agreement;
- v) Travel arrangements;
- w) Attendance at meetings with Company, Authorities or Company's Other Contractors;
- x) Production of Milestone completion documentation and all other handover documentation to Company standard as defined in Exhibit 6 – Company Supplied Document Listing; and
- y) Any and all other activities identified in this Agreement.

### 3.2 Execution Plan

Contractor shall provide a detailed execution plan for performing the Work as part of the Agreement. Company requirements for various sections within the execution plan are defined herein this Exhibit 1 – Scope of Work.

The execution plan shall define and include the following, without limitation:

- a) Project objectives with critical success factors;
- b) Key risks and risk management and critical success factors;
- c) Project organization;
- d) Roles and responsibilities (Proponent, consortium members, Subcontractors);
- e) Mobilization and staffing plan for all Project phases clearly identifying how personnel will be assigned to the various locations;
- f) Project management systems and procedures;
- g) Planning and scheduling;
- h) Document control/document management;
- i) Interface management;
- j) Reporting;
- k) Information management;
- l) Procurement management;
- m) Subcontract management;
- n) Management of change;
- o) Accounting and invoicing;
- p) Project Quality Plan;
- q) Project Safety Plan;
- r) Environmental management plan;
- s) Regulatory compliance;
- t) Interface with 3rd Party Surveyor;
- u) Procurement plan;
- v) Execution philosophy/method statements;
- w) Engineering execution (resources and tools available);
- x) Procurement execution (resources and tools available);
- y) Onshore cable manufacturing execution;
- z) Onshore manufacturing completion, testing (methodology, resources and tools required);
- aa) Loadout and transportation execution; (including transportation spread where applicable);
- bb) Offshore installation execution (vessel selection, spreads make-up; installation sequence, installation and protection methodology and weather limitations on operations);

- cc) Fiber optic telecommunications cable manufacturing, installation, testing and termination methodology (optional scope);
- dd) Offshore and onshore protection execution (nominated protection spread selection, spread make-up, execution sequence, protection methodology and weather limitations on operations);
- ee) Onshore installation execution (termination, land cable installation, and land cable protection);
- ff) Cable System Pre-commissioning, performance testing, and handover to Company (methodology and resources and tools required); and
- gg) Agreement closeout (as-built survey, as-built drawings, data books, test report summaries, operations & maintenance manuals, documentation handover and other final contract documentation).

### **3.3 Master Document Register**

Contractor shall provide a master document register with all Contractor supplied documentation required to execute the Work. The master document register shall include all documents defined in Exhibit 7 – Deliverables List, as well as documentation for the following, without limitation:

- a) Management and administration;
- b) Supervision, management and control of all engineering, procurement, construction and offshore installation;
- c) Procedures, plans and manuals required to execute the Work;
- d) Engineering reports, calculations, analysis, drawings and specification documents required to execute the Work;
- e) Quality management;
- f) Document control requirements;
- g) Engineering data management;
- h) Procurement and materials management;
- i) Environment, health, safety and security management;
- j) Accounting;
- k) Scheduling;
- l) Administration and support services, including all telecommunications, computer and courier services;
- m) Planning and scheduling;
- n) Material traceability;
- o) Verification planning and regulatory compliance;
- p) Environmental protection and management;
- q) Waste management;
- r) Equipment identification and tagging;
- s) Auditing plan;

- t) Maintenance and testing;
- u) Preservation;
- v) Vessel certification;
- w) Factory and site acceptance testing;
- x) Risk assessment, management and hazard identification;
- y) Constructability assessment;
- z) Management of Subcontractors as required to maintain schedule and quality requirements of the Project;
- aa) Obtaining all necessary Approvals in accordance with Applicable Laws and the requirements of the Agreement;
- bb) Coordination of Contractor required travel; and
- cc) Milestone completion, including the compilation of mechanical completion dossier and all other handover documentation to Company.

The final master document register shall be supplied by Contractor for Approval by the Company as defined in Exhibit 7 – Deliverables list. All documentation contained within the master document register shall be revision controlled as defined in Exhibit 4 – Coordination Procedures. The Company Approved master document register shall form part of the Agreement.

### **3.4 Provision of Facilities and Services for Company**

Contractor shall provide to Company, during all onshore phases of the Work at each of Contractor's or Subcontractors' Worksites the following facilities and services without limitation:

- a) One (1) fully furnished and equipped private office suitable for a minimum of two (2) Company Personnel;
- b) Local hardware connections for Company laptop including power, internet, printing and network facilities;
- c) Telephone with international connection;
- d) High speed internet to permit connection of Company representatives' computer to Company IT systems;
- e) Access to copying, scanning and facsimile transmission and receiving facilities; and
- f) Two (2) parking spaces in the main parking lot, if required.

All costs associated with Company's use of such facilities shall be included in the Price.

Offshore requirements for Company accommodation is defined in this Scope of Work, Exhibit 1C – Vessel Performance Specification.

### **3.5 Company's/Contractor's Project Control Systems**

Contractor shall comply with Company information formats and methods of transfer between Company and Contractor systems to ensure the accuracy of electronic and non-electronic transfer of project control information.

Contractor shall comply with the needs and requirements of Company in this regard including the requirements of Exhibit 4 – Coordination Procedures.

## **4.0 ENGINEERING**

### **4.1 Engineering - General**

Contractor shall manage engineering activities in accordance with Agreement requirements.

Contractor shall perform all design/engineering as required and provide all engineering documents, drawings, specifications, engineering data, reports, analyses, studies and any Deliverables necessary for the completion of the Work, including, without limitation:

- a) Work required to enable Contractor and its Subcontractors to design, procure materials and equipment, and to fabricate, assemble, inspect, test, preserve, store, transport, offload, loadout, seafasten, install, protect and cable system pre-commissioning of the Work in accordance with the requirements set forth in the Agreement;
- b) Verify that all Work to be Delivered meets the requirements set forth in the Agreement;
- c) Perform constructability analyses, hazard analyses and other such risk assessments as necessary to complete the Work;
- d) Provide all required procedures for testing, mobilization, seafastening, installation, fiber optic cable installation (optional), protection, landfall (optional), external communications, surge arrestors, cable system pre-commissioning, demobilization, start-up, maintenance and operation;
- e) Provide documentation and support for verification by Marine Warranty Survey and independent verifying body;
- f) Provide to Company and Company's Other Contractors all information required for interfaces;
- g) Provide all documentation and engineering data requested by Company; and

- h) Acceptance of Company Supplied Document Listing including, without limitation, the documentation provided in Exhibit 6 – Company Supplied Document Listing.

All engineering of the Work shall be performed by qualified Personnel and Contractor shall use the necessary tools, such as computers and recognized and verified computer programs, to perform the engineering Work in a professional and timely manner and in accordance with the Agreement, Applicable Laws and normally accepted engineering practices.

Company may, at its sole discretion Approve, any or all of Contractor's engineering in accordance with the provisions of the Agreement, however such approval or lack thereof does not relieve Contractor of any of its obligations.

All engineering performed by Contractor and Subcontractors shall adhere to the requirements of the relevant professional engineering body in the location at which the Work is being performed.

#### **4.2 Contractor Review of Technical Documents**

Contractor shall review Applicable Laws, as well as review and comment on the documents in Exhibit 6 – Company Supplied Document Listing. These documents constitute a basic requirement for Contractor's design and engineering Work. Contractor shall, without undue delay, notify Company of any errors, omissions or inconsistencies in the above. Changes or delay to the Work resulting from such errors, omissions or inconsistencies shall not constitute a Change to the Work.

Company may, during the Agreement period, issue revised and/or additional specifications and drawings. Contractor shall immediately upon receipt thereof check all such revised and/or additional documents and shall notify Company in writing of any discrepancy, fault or defect or any clarifications that Contractor may require and notify Company of any impact of any revision and/or additional specifications and/or drawings.

##### **4.2.1 Interface with Company's Other Contractors**

Contractor shall attend engineering, Project interface and co-ordination meetings between Contractor, Company and Company's Other Contractors to resolve issues relating to the interface of technical, engineering, material procurement, manufacturing, installation, schedule activities and other matters. Contractor shall undertake best efforts for the timely resolution of issues raised and/or discussed in the interface meetings and during the execution of the Work. Contractor and

Company shall agree to closure dates for all interfaces which shall be adhered to by both Parties. Company may, at its sole discretion, instruct Contractor with respect to the resolution of interfaces; however this will not relieve Contractor of its responsibilities associated with the Work.

Contractor shall prepare an interface register for Company Approval as the basis for the interface Work.

Contractor shall actively seek required information from Company and Company's Other Contractors and clearly identify to Company what information is required and when the information is needed.

#### **4.2.2 System Engineering**

Contractor shall support system engineering for the Work. This will include without limitation:

- a) Co-ordination and verification of interfaces between Contractor, Subcontractors, Company and Company's Other Contractors;
- b) Verification of the Work to function with the HVDC transmission system, in addition to the cable system, and be free of defects;
- c) Witness of Company performed HVDC transmission system commissioning, including cable system verification; and
- d) Ensure that the Work is compatible with the Agreement requirements.

Contractor shall also clearly identify all internal interdependencies and all interdependencies between Company and Company's Other Contractors for the various activities to be performed under the Agreement, comprising of matters pertaining to Delivery from one Worksite to another, installation and Contractor documentation compatibility with HVDC transmission system requirements.

Contractor shall perform engineering for verification of system engineering to verify system integrity when changes to the design occur.

Contractor shall ensure that key Personnel, including without limitation, offshore/onshore project engineers and the offshore/onshore construction manager(s) specific to Worksite and/or the vessel proposed for the Work are participants in all phases of the engineering. Contractor shall establish an effective engineering review process to achieve same.

#### **4.3 Detailed Engineering**

#### **4.3.1 General**

Contractor shall perform all analyses and design required for completion of the Work. Contractor shall produce all required engineering documents and provide to Company for review and Acceptance.

Detailed engineering shall also include all analyses required by Authorities and Company, Company's Other Contractors in accordance with Agreement as necessary to ensure the Work is technically acceptable and fulfills all obligations of the Agreement.

Any design changes required as a result of a failure to meet specification as determined during engineering shall be implemented as part of the Work and shall not constitute Change to the Work.

Contractor shall prepare detailed specifications for the Work as a part of Contractor's detailed engineering including, without limitation, cable, terminations, joints, surge protectors, DTS system, protection, installation equipment, vessel, procurement specifications and all other required items.

#### **4.3.2 Tools**

Contractor shall develop, design and/or supply all the required tools to perform the Work, as well as provide all documentation and specifications required for said tooling.

#### **4.3.3 Materials**

Contractor shall ensure that the final material selections for all components of the Work are fit for their intended use, are compatible with all other relevant components of the Work, are compatible with Project equipment and are integrated with HVDC transmission systems.

If material selection for specific components is not covered by the requirements given in this Exhibit 1 – Scope of Work, Exhibit 6 – Company Supplied Document Listing or Exhibit 7 – Deliverables List, Contractor is responsible for selection of a suitable material which is subject to Company Approval. Contractor shall provide, for Company's review and Approval, details of records to demonstrate that materials supplied meet Company's and Contractor's requirements.



#### 4.3.4 Safety, Environmental Compliance and Reliability Analysis

Contractor shall undertake safety, environmental compliance and reliability analysis of the Work to achieve the following objectives:

- a) Demonstrate that the Work is conducted in a safe manner and fulfills all obligations and requirements set forth by the Applicable Laws and the Agreement;
- b) Demonstrate that the Work is conducted in compliance with all Applicable Laws, regulations, guidelines and conditions of Environmental Assessment release;
- c) Complete site rectification prior to completion and handover of the Work;
- d) Support detailed design decisions in the cases where alternative designs are considered or where the detailed design alters from original plans; and
- e) Identify critical components for specific follow-up or specific safety qualification programs.

Contractor shall submit plans and procedures to demonstrate that safety and environmental considerations will be built into the final product. The plans and procedures shall include, but not be limited to, the following:

- a) Implementation and verification of all safety and environmental requirements into the Work through all phases of the Work including without limitation, onshore installation, offshore installation, pre-commissioning, commissioning, start-up and operation; and
- b) Internal checklist and procedures for safety design review.

Contractor shall conduct failure mode and effects analysis (FMEAs) on Work and the Contractor's Spreads to identify critical failure modes and mitigating measures.

Contractor shall conduct reliability, availability and maintainability (RAM) analysis for the proposed HVDC cable system.

Contractor shall conduct a burial assessment study as part of the development of the cable protection methods. This study will determine cable protection burial depths given various environmental, man-made and other factors to achieve a targeted ten thousand (10,000) year ( $10^{-4} \text{ yr}^{-1}$ ) mean return period for cable protection.

Contractor shall perform and attend preliminary hazard analysis (PHA), operability reviews, hazard identification and risk assessment (HIRA) and any other safety risk assessments as necessary for the Work. Such activities shall also meet the

requirements of Company defined action tracking system, as defined in Exhibit 4 – Coordination Procedures.

All safety, environmental, compliance and reliability analysis processes shall be provided to Company for Approval prior to commencement of the Work.

#### **4.3.5 Cable System Design Engineering**

Contractor shall be responsible for, without limitation, and in accordance with the requirements of the Agreement, Exhibit 1 – Scope of Work, Exhibit 4 – Coordination Procedure, Exhibit 6 – Company Supplied Document Listing and Exhibit 7 – Deliverables List, and the following:

- a) Detailed design of the cable system in accordance with this Exhibit 1 – Scope of Work;
- b) Materials selection for the cable system and to ensure material suitability and compatibility with Company’s HVDC transmission system;
- c) Detailed design of the cable system cathodic protection;
- d) Detailed design for all accessories within the cable system, including, without limitation, terminations, surge arresters, joints, DTS unit, and anchors;
- e) DTS accuracy on temperature and location;
- f) Fault finding methods and accuracy;
- g) Detailed design and specifications for all ancillary equipment required to perform the Work;
- h) Detailed design of all submarine and land protection required for the cable system;
- i) Onshore and offshore separation requirements;
- j) Design of cable landfall at Newfoundland and Nova Scotia landfall sites, at Company’s discretion;
- k) Demonstration that cable construction is suitable for installation, landfall, protection, recovery, repair and in-service requirements for the design life;
- l) Demonstration via erosion and corrosion calculations that the cable system is suitable for the design life of field in accordance with Exhibit 1B – Cable System Performance Specification;
- m) Insulation coordination study for validation that cable system is compatible with HVDC transmission system;
- n) On-bottom stability of the cable system for installation and operational phases;
- o) Detailed design calculations describing thermal-mechanical behavior of submarine and land cables, and controls on cyclic sheath strain and forces exerted on accessories;

- p) Mechanical calculations for use during cable laying, such as minimum bottom tensions, cable tension and angle at laying vessel, all as a function of water depth.
- q) Detailed design calculations to define allowable free spans and definition of corrective measures; and
- r) Detailed design of Fibre optic communications system (optional).

#### **4.3.6 Survey Engineering**

Contractor shall perform all survey engineering necessary to complete the Work in accordance with the requirements of this Agreement.

Contractor shall provide interpretation of Company supplied survey information. Contractor shall be responsible to verify and supplement information where deemed necessary by Company to support completion of the Work.

Contractor shall be responsible for preparation of all cable routing layouts in accordance with the requirements of the Agreement.

Contractor shall be responsible for ensuring that the final cable routings maintain the required separation and are within the Company supplied cable corridor in accordance with the Agreement. The cable routes are subject to Company Approval.

#### **4.3.7 Cable System Installation Engineering**

Contractor shall be responsible for the installation engineering including without limitation system installation engineering design activities, preparation of installation drawings and procedures for all aspects of the installation, loadout, laying, protection, landfall, jointing, termination, testing, pre-commissioning and repair.

Contractor shall be responsible for all installation engineering necessary to support the Work, including without limitation:

- a) Cable routing selection;
- b) Installation planning;
- c) Installation method statements, philosophies and procedure preparation;
- d) Cable installation dynamic analysis;
- e) Land cable protection design;
- f) Landfall design, at Company's discretion;
- g) Cable installation at landfalls design;
- h) Submarine cable protection design;

- i) Cable system accessory design, including joints, anchors, terminations, DTS and surge arresters;
- j) Cable system ancillary equipment design;
- k) Worksite reinstatement engineering;
- l) Cable repair procedures for all various protection and landfall locations;
- m) Pre and post installation seabed leveling and span rectification;
- n) Contingency plans and procedures for all installation activities;
- o) Survey engineering; and
- p) Survey engineering for fibre optic communications.

Contractor's installation engineering studies shall include, without limitation, the analysis of stresses and reactions at all stages of installation. Contractor shall be responsible to ensure that mechanical limits are not exceeded during installation and operation of the cable system, including accessories and all other equipment required to perform the Work.

Contractor shall be responsible for the design of all installation aids and ancillary equipment required for installation as it relates to the Work.

Contractor's installation engineering shall meet the requirements of Exhibit 4 – Coordination Procedure and Exhibit 6 – Company Supplied Document Listing.

#### **4.3.8 Stability Engineering**

Contractor shall be responsible for design of stabilization methods for cable systems for both installation and operational conditions. Contractor shall be responsible for installation engineering for the stabilization system including installation tooling, transportation, loadout, seafastening, installation and recovery.

Contractor shall be responsible for design of items and any necessary installation aids for stabilization.

#### **4.3.9 As-built Analysis**

Contractor shall be responsible for analysis of all as-built systems and items, including without limitation, cables, joints, terminations and surge arresters to establish acceptability of the as-built condition.

The as-built analysis shall include, without limitation, verification of the following:

- a) Residual tension in installed cables for life of design;
- b) Suitability of the installed condition of the joints, anchor points, terminations, surge arresters, landfalls and protection;

- c) Thermal analysis including cycling effects throughout the design life and impact on termination and cable system accessories;
- d) Ampacity analysis;
- e) Cable stability including, without limitation, evaluation of fatigue, minimum bend radius, joint and termination loading; and
- f) Cathodic protection system.

#### **4.4 Engineering Documentation**

Contractor shall prepare and submit to Company a document register in accordance with the Agreement. This register shall include all engineering documentation necessary for completion of the Work.

The documentation shall comprise all necessary documents to verify that the Agreement requirements are met, and shall also document the as-built status.

Engineering documentation shall be presented in an orderly series of volumes titled as follows, without limitation:

- a) Technical data book;
- b) Manufacturer's records;
- c) Subcontractor's records;
- d) Mobilization manual;
- e) Onshore installation manual;
- f) Offshore installation manual;
- g) Pre-commissioning /handover procedures and test results manual;
- h) Operating and maintenance manual; and
- i) Mechanical completion dossier.

Engineering documentation, including without limitation, final documentation and manufacturing records shall be compiled on an ongoing basis during the Work ensuring timely delivery of documentation. Documentation requirements are further defined in Exhibit 4 – Coordination Procedure.

Contractor shall provide, receive and review all documentation via the Company's document Management System.

#### **5.0 SUPPLY CHAIN MANAGEMENT**

Contractor shall be responsible for all aspects of supply chain management (SCM) necessary for the successful execution of the Work which includes, but is not limited to: subcontracting of services; procurement of all materials, equipment and

consumables; expediting; receipt; inspection; material control; preservation, protection and storage; and Subcontractor management.

Contractor shall ensure all SCM activities comply with Agreement requirements including required contractual wording and technical, quality, health, safety and environmental requirements. SCM activities shall be conducted in accordance with the requirements of the Agreement, Exhibit 4 – Coordination Procedures and best industry practices.

Contractor shall include its SCM philosophy related to the Work and list all relevant procedures and processes in its project execution plan. SCM activities related to major components of the Work shall be included in the Contractor's Control Schedule.

## **6.0 MANUFACTURING AND FABRICATION**

### **6.1 General**

The cable and accessories shall be manufactured in accordance with this Agreement and as further defined in the relevant specifications included in this Exhibit 1 - Scope of Work.

Contractor shall perform manufacturing including, without limitation, material traceability, cable system assembly, marking, dimensional control, testing and mechanical completion required for the completion of the Work.

Contractor shall be responsible for all quality control requirements for all manufacturing/fabrication activities including, without limitation, provision of qualified inspectors, review and Approval of all manufacturing documentation, implementation of quality control plans/procedures, witnessing of all necessary testing or other activities and inspection at all Worksites.

Contractor shall provide, mobilize, maintain, operate and demobilize all Worksite Personnel, plant, equipment and services required to complete the Work.

Manufacturing documents/Drawings shall be prepared by Contractor. The manufacturing documents/Drawings shall give a full description of the Work and shall include all information required to perform the Work.

Contractor shall fabricate and assemble or otherwise provide all items required for onshore and offshore testing/installation.

Contractor shall provide unrestricted right of access for Company Group Personnel to all Contractor's Worksites used in support and execution of the Work.

In addition to Contractor's inspection and testing program, Company may at its sole discretion, monitor any or all of Contractor's manufacturing and/or testing in accordance with the provisions of this Agreement. Contractor shall provide Company with all manufacturing documentation requested by Company in support of Company's monitoring activities.

## **6.2 Non-Destructive Examination**

Contractor shall perform, document and report all non-destructive examination details and results. Contractor shall submit all non-destructive examination testing requirements to Company for Approval and include records in manufacturers' data books.

## **6.3 Repairs**

In the event of damage or failure to meet testing requirements, Contractor shall immediately notify Company, perform and monitor all types of repairs on an on-going basis and shall submit reports on repairs to Company. Complete records of all repairs are to be compiled.

No repairs shall be made to cable system or permanent equipment without prior Company Approval.

Contractor shall have appropriate equipment on site during installation and testing to locate a fault and define the following, without limitation:

- a) Fault verification;
- b) Preconditioning of fault;
- c) General and precise locating of the fault.

Contractor shall immediately notify Company of any Non-conformances and require Company Approval of mitigating measures prior to implementation.

## **6.4 Dimensional Control**

Contractor shall ensure that it has dimensional control to achieve all tolerance requirements for fabrication of the Work.

Contractor shall provide all assistance and unrestricted right of access for Company to perform audits/verifications on Contractor's dimensional control procedures and results. All dimensional control results shall be submitted to Company for review and Approval.

## **6.5 Manufacturing Testing**

Contractor shall undertake a comprehensive acceptance test program, in accordance with Exhibit 1B – Cable System Performance Specification, to ensure that the Work meets or exceeds the requirements of this Agreement. Contractor shall supply testing acceptance criteria to Company for Approval.

Failure of any test shall result in a re-test at Contractors account, including routine tests, sample tests, special tests, type testing, pre-qualification testing, pre-commissioning and all other testing required to perform the Work.

Testing shall cover the range of material testing through performance verification on materials, subsystems and systems to overall testing of the completed assemblies prior to being transported from the Worksite. Contractor shall provide an inspection and test program (ITP), in accordance with Exhibit 4 – Coordination Procedures, for Work to Company for Approval prior to commencement of testing. Contractor shall supply all test equipment and materials as required for testing of all components required to perform the Work.

Contractor shall perform system testing, including without limitation Factory Acceptance Test (FAT) and System Integration Test (SIT) which will include all activities required to ensure proper function, integrity and system performance of the Work.

Contractor shall provide the required facilities and services and perform all administration, planning, preparation, supervision and documentation of test activities.

The detailed cable system test program shall be Approved by Company.

## **7.0 STORAGE, PRESERVATION AND PREPARATION**

### **7.1 Storage Security and Protection**

Contractor shall be responsible for all storage and security of the Work. Contractor shall also be responsible for security of Company Supplied Items and all other items supplied to the Contractor until Delivered and Approved by Company.



Contractor shall also provide protection to avoid damage to the Work during manufacturing, testing, loadout, transport, storage, lifting, seafastening and offshore/onshore installation.

## **7.2 Preservation and Maintenance**

Contractor shall perform all tasks required to ensure preservation and maintenance of the Work for design life.

Contractor shall develop preservation procedures and perform preservation activities for the Work.

Contractor shall ensure the preservation requirements of Subcontractors' equipment are maintained.

Contractor shall monitor the implementation and results of Subcontractors' and Contractor's preservation programs.

Contractor shall include requirements of preservation into Work performed by Subcontractors to ensure that Subcontractors provide the necessary information for preservation, storage, protection and maintenance of preservation for the equipment supplied.

## **7.3 Preparation for Transportation**

Contractor shall obtain Approval from Company prior to shipment of any Item required for performance of the Work.

Contractor shall carry out packing and preparation prior to shipping and ensure that all equipment and tools are secured in a safe manner. The cable, accessories and all other spare and ancillary equipment shall be packed and shipped to allow installation sequence and operational flexibility.

## **7.4 Transportation of Equipment**

Contractor shall be responsible for loadout and transport of the manufactured components of the Work to the mobilization location, as nominated by Contractor.

Contractor shall be responsible for loadout and seafastening of the manufactured components of the Work onto Contractor Spreads and shall perform all design, engineering, supply of material, fabrication and installation required for the loadout and seafastening. Contractor shall also perform all design and engineering related to

offloading the Work at the location for mobilization nominated by Contractor. Contractor shall satisfy the requirements of the Marine Warranty Surveyor and independent verifying body, other Authorities and Company, as required.

Contractor shall transfer the cable onto Contractor supplied vessel in accordance with the mobilization manual. Contractor shall, at all times, be responsible for organizing, managing and executing the load out/offloading operations.

Contractor shall carry out all necessary voyage protection of the Work to prevent transit damage during transportation to, and offloading at, the location for mobilization nominated by Contractor. Contractor shall develop criteria and procedures for voyage protection, which shall be submitted to Company for Approval.

Contractor shall be responsible for transportation equipment, including logistics, management and transportation between all Worksites and the location for both local and foreign mobilizations as nominated by Contractor.

All lifting devices will be in accordance with Exhibit 1C – Vessel Performance Specification. Company or Company’s Other Contractors will have the right to stop any lift, load-out or marine operations, if, in their opinion, operations are or could be unsafe, or are outside of the procedure parameters, or damage to the Work could occur.

#### **7.5 Lifting Devices**

Contractor shall provide all lifting devices for all equipment. This shall include without limitation certified lifting aid arrangements, lifting slings and shackles. Lifting devices shall be in accordance with the requirements of “DNV Rules for Planning and Execution of Marine Operations” or equivalent.

#### **7.6 Shipping Advice Notice**

The Contractor shall notify the Company in writing of the timing for the mobilization of vessel(s) and other means of transport to allow the Company’s Approval prior to its mobilization.

#### **7.7 Shipping Reports**

Contractor shall produce concise daily field reports during transit and operation of vessel(s) and other means of transport. These documents shall be updated daily and shall form the basis of the as-built report. The content of the field report shall be

defined during the development of the Contractor's detailed procedures. Copies of the report shall be produced offshore and submitted for Company review.

The following shall be submitted to the Company's offshore representative:

- a) Daily field and daily progress (DPR) reports; and
- b) One (1) copy of each field report (in electronic form), per vessel, prior to demobilization.

## **7.8 Additional Pre-Loadout Storage**

Contractor shall arrange for all equipment to be safely stored prior to and during loadout. It is the responsibility of the Contractor to ensure that the environment in which this equipment is stored is suitable and does not induce undue risk of damage.

In the event of delay, the Contractor shall have provision to store cable and ancillary equipment up to one (1) year after May 1<sup>st</sup>, 2016.

## **7.9 Customs Agent**

The Contractor shall arrange for its own customs agent to aid in the importation of Contractor's Spreads, Items, Equipment, Deliverables and Personnel into Canada.

## **7.8 Security Services**

The Contractor shall provide security services for all Worksites that are under Contractor's care, custody and control.

## **8.0 INSPECTION AND VERIFICATION**

### **8.1 Inspection**

The Work shall be subject to inspection by Company and Company's Other Contractors.

Contractor shall prepare inspection and test plans (ITP's) to cover the full range of activities required to complete the Work, including without limitation all manufacturing, installation and testing activities. ITP's shall identify the specific verification activities planned for each process activity, including the characteristics to be inspected and tested at each point, the procedures and acceptance criteria to be used and any special tools, techniques or Personnel qualifications required. Company's independent verifying body, supplier and purchaser surveillance levels shall be indicated by use of hold, witness and review points on ITP's.

Contractor shall submit ITP's to Company for Approval ninety (90) days prior to commencement of activities addressed in each ITP.

## 8.2 Verification

Company may perform, or have performed, verification of certain elements of the Work. Verification shall be undertaken by independent verification body at Company's discretion. The objective of the verification is to ensure the safety and reliability of the completed Work with regard to design, construction and operation and ensure the Work is fit for purpose and for design life. The following verification may be performed, without limitation:

- a) Contractor internal process audits;
- b) Contractor and Subcontractor documentation review and Approval;
- c) Material and equipment traceability and identification verification;
- d) Manufacturing inspection release note Approval;
- e) Pressure vessel verification;
- f) Lifting device verification;
- g) Electrical equipment verification;
- h) Installation inspection test plan Approval;
- i) Marine/insurance warranty surveyor assistance; and
- j) Design appraisal document review and Approval.

Contractor shall submit to Company, a verification plan to specify internal process for managing verification activities. Contractor shall prepare verification documents as required by Company.

Contractor shall fully co-operate with the verification process and implement all actions arising from the verification.

Contractor shall assist Company in the coordination and administration of an inspection and verification program, and the development of co-ordination procedure(s) subject to Company Approval, which shall include the following information, without limitation:

- a) Detailed listing of all design documentation to be sent to the Company and for Approval;
- b) Design documentation submission schedule and status update;
- c) Confirmation of documentation submission to the independent verification body for Approval, records of document review and confirmation of design Approval from the independent verifying body;

- d) Detailed listing of all manufacturing, construction operations, installation activities, tests and/or inspection which the independent verification body requires to witness; and
- e) Inspection and schedule for independent verification body of Contractor's engineering, manufacturing, testing and installation facilities.

Contractor shall be responsible for coordination with the independent verification body for inspection required for verification of the Work. Contractor shall prepare all documents, Drawings, design briefs, analyses, manuals and all other information as required by the verification authority. Contractor shall maintain the documentation to the satisfaction of the Company. Contractor shall present the verification documentation to Company on mechanical completion of the Work.

Contractor shall interface with the independent verification body for all activities including without limitation, design verification activity, inspection and surveillance activities. Delays associated with the independent verification body survey and inspection activities shall not constitute Change to the Work. Contractor shall attend meetings with independent verification body as required by independent verification body and Company.

The involvement of, or Approval by Company's Marine Warranty Surveyor shall in no way limit or otherwise waive Contractor's obligations hereunder including without limitation, Contractor's Items, Contractor's Spreads and Company Supplied Items in Contractor's care, custody and control.

### **8.3 Marine/Insurance Warranty Survey**

Company will employ a Marine Warranty Surveyor to warrant marine operations, including, without limitation, lift and load-out procedures, sea-fastening and transportation. The Marine Warranty Surveyor shall have the right to inspect any and all of Contractor's or its Subcontractors proposed marine related equipment and to monitor the performance of fitness and/or function testing of the primary equipment and any and all of its secondary, ancillary equipment until Marine Warranty Surveyor is satisfied of acceptability of said equipment for execution of the Work. Contractor shall liaise with the Marine Warranty Surveyor and not commence Work prior to Marine Warranty Surveyor Approval.

The involvement of, or Approval by Company's Marine Warranty Surveyor shall in no way limit or otherwise waive Contractor's obligations hereunder including without limitation, Contractor's Items, Contractor's Spreads and Company Supplied Items in Contractor's care, custody and control.

Delays to the Work including without limitation, the requirement to perform fitness and/or function testing of Contractor's Spreads or Contractor's Items, or Contractor's failure to comply with Applicable Laws or the requirements of the Company shall not constitute Change to the Work and shall not entitle Contractor to either additional compensation or an extension of time to complete the Work.

## **9.0 INSTALLATION**

### **9.1 General**

Contractor shall be responsible for all activities necessary for installation of the Work including, without limitation, activities required for:

- a) Transportation and offloading of all permanent equipment, spares, ancillary and installation equipment to Contractor's marine terminal in Canada;
- b) Delivery of spares to Company designated location(s) in the areas of Sydney, Nova Scotia or Port Aux Basques, Newfoundland and Labrador;
- c) Pre-installation and post-protection surveys;
- d) Seabed pre-installation leveling along cable route, if required;
- e) Span rectification post installation, if required;
- f) Land, transition and submarine jointing operations;
- g) Installation of land cable and associated equipment;
- h) Installation of submarine cable, and associated equipment, along Company Approved cable route and landfall;
- i) Termination installation and termination of cable and accessories;
- j) Installation of fiber optic DTS system;
- k) Land cable protection installation onshore, including trenching and backfill;
- l) Land cable right of way barriers, markers and signage;
- m) Submarine cable protection construction subsea ;
- n) Management of cable landfall construction, at Company's discretion;
- o) Cathodic protection and corrosion system installation;
- p) Cable preservation system for design life;
- q) As-built multi-beam survey;
- r) Pre-commissioning and testing of cable system;
- s) HVDC transmission system commissioning support;
- t) Installation of cable in transition compound, including fiber optics DTS system; and
- u) Installation of fiber optic communications system (optional).

Contractor shall undertake all onshore preparation and fabrication as necessary to perform the Work.

Contractor shall be responsible for supply of all installation and pre-commissioning spares necessary for completion of the Work.

Contractor shall have capabilities and appropriate equipment on site during installation and termination testing to locate a cable fault.

All of Contractor's Items, including Contractor's Spreads, shall be provided and maintained in a fully serviceable condition for the duration of the Work. Contractor shall maintain the capacities, specifications, equipment classifications and other items required to perform the Work.

Contractor shall supply fully manned Contractor's Spreads to perform the Work.

If any Contractor supplied equipment is unavailable, Contractor shall replace it with equipment Approved by Company which shall be at least equivalent in quality and performance.

Contractor shall nominate secondary installation vessel as a replacement to the primary installation vessel if primary installation vessel is unavailable due to unforeseen circumstances. Contractor shall nominate all required vessels and not substitute vessels nominated for the Work without prior Company Approval.

Contractor shall perform site reinstatement including, without limitation, land reinstatement, removal of all temporary works and debris dropped or discharged by Contractor including all installation aids and rigging at no additional cost to Company.

Contractor shall perform constructability and hazard peer reviews with Company, Company's Other Contractors and Subcontractors and close all related actions prior to commencement of the Work.

## **9.2 Mobilization**

Mobilization at Contractor's facility shall include, without limitation:

- a) All modifications to vessel(s) are required to adhere to Company requirements, Applicable Laws and Company health, safety, security and quality standards for performance of the Work;
- b) Provision of a pre-mobilization schedule covering all checking, testing and calibration activities;
- c) Checking, testing and calibration of major items of equipment;
- d) Submission of test and survey reports;

- e) Site preparation and readiness activities;
- f) Provision and Delivery of spares;
- g) Modification and repairs, as necessary, for all parts of the Contractor's Spreads to enable them to correctly and safely perform their function;
- h) Loadout of equipment from Contractor's loadout facility or nominated port onto Contractor's Spreads;
- i) Post load out testing of submarine and land cable on Contractor's Spreads prior to departure from Contractor's facility;
- j) Seafastening;
- k) Security in accordance with the International Ship and Port Facility Security (ISPS) code;
- l) Transit to the offshore Worksite, including Canadian mobilization if required; and
- m) Completion of all equipment and calibration trials, including without limitation tow trials, ROV trials, survey calibrations and DP trials prior to commencement of the installation Work.

Contractor shall be responsible for all aspects of loadout including without limitation the mobilization of all vessels, equipment and Personnel. The loadout/mobilization shall take place at a port(s) and locations to be nominated by Contractor and Approved by Company.

Contractor's Spreads shall be fully equipped, manned, loaded and complete with fuel, water, critical component spares and support services and prepared to commence operation immediately after mobilization. As part of mobilization Contractor's Spreads shall complete an acceptance trial at a location in the offshore Worksite confirming that all systems are operational. The trial shall include, without limitation, confirmation of calibration and accuracy of survey and positioning systems, survey systems, DP systems, ROV systems, and cable lay system.

Contractor's Spreads shall be certified for the Work and, in the event that a Canadian mobilization is deemed necessary, certified to complete any other mobilization activities such as bunkering, equipment and Personnel transfer.

Company may, at its sole discretion, witness Contractor's mobilization and demobilization activities.

Contractor shall notify Company of opportunities for offshore installation audits on Contractor's other projects.

Contractor shall give Company thirty (30) days' notice of vessels being available for pre-mobilization audits. Company at its sole discretion shall undertake an audit of



Contractor's Spreads prior to mobilization. Contractor shall use best efforts to accommodate Company's audit requirements.

Contractor shall give Company sixty (60) days prior notice of mobilization at Contractor's facility for any marine aspect of the Work.

Contractor shall advise any change to mobilization at Contractor's facility date immediately if it occurs. Daily notice shall be given for each of the last fourteen (14) days prior to the actual Contractor's facility mobilization date.

Contractor shall provide daily updates to Company of vessel(s) progress during the voyage to the local mobilization base.

Contractor shall not demobilize Contractor's Spreads, or any part thereof from the offshore Worksite without prior Company Approval.

### **9.3 Preparatory Work**

Contractor shall perform, prior to commencement of installation activities, all survey and preparatory operations as necessary to allow completion of the Work.

Contractor to perform preparatory Work on seabed along cable route prior to cable lay and cable protection installation including, without limitation, seabed leveling and debris removal.

Contractor shall be responsible for locating all obstructions, obstacles, debris and seabed features along the cable installation corridor lay down locations. All seabed rectification Work, remedial work and free span correction, required as a result of Contractor's failure to locate, mark or avoid such items, shall be Contractor's responsibility.

Contractor shall perform a pre-installation survey along pre-defined cable routes.

### **9.4 Installation of Cables**

Contractor shall be responsible for the installation of the cable system in accordance with the requirements of the Agreement.

Contractor shall take measures to prevent damage to cable system during installation.

Contractor shall be responsible for the landfall installation of the cables at the Newfoundland and Nova Scotia landfall locations.

Contractor shall minimize the cable lengths while optimizing final cable routing within the Company defined corridor. The lay route and sequence by which the cables are to be laid shall be proposed by the Contractor for Company Approval.

Contractor shall establish over length for each cable to allow for jointing/installation activities as defined in Contractor's installation methodology.

Contractor shall develop free span acceptance criteria and submit criteria to Company for Approval. Contractor shall plan installation activities with due consideration for acceptance criteria and shall perform remedial operations where criteria are not achieved.

Contractor shall safely minimize cable residual tension through the installation process and shall undertake best efforts to reduce residual tension during cable jointing and all phases of the installation process.

Contractor shall install land cable complete with protection from the onshore landfall interface location to the transition compound. Transition compound distance from onshore landfall interface is approximately one (1) kilometer. Contractor shall install land to submarine transition joint and anchor, if required, as defined in the Contractors installation methodology.

Contractor shall install submarine cable protection along cable route between submarine landfall exits on both sides of the Cabot Strait. Cable protection systems shall be designed to deliver a targeted ten thousand (10,000) year ( $10^{-4} \text{ yr}^{-1}$ ) mean return period for cable protection.

Engineering and equipment required for all testing is to be provided by the Contractor. Contractor shall be responsible for cable system testing and pre-commissioning in accordance with the Agreement.

Contractor shall provide Personnel for HVDC transmission system commissioning support at a time to be defined by Company.

## **9.5 Remedial Works**

Contractor shall be responsible for completion of remedial works on the Work during installation and/or on completion of the installation activities subject to review of the as-built survey results.

Remedial works may be required for reasons including, without limitation:

- a) Free spans in excess of the acceptance criteria;

- b) Insufficient stabilization; and
- c) Reinstatement of onshore and marine sites.

Prior to commencing any remedial works, detailed procedures and designs shall be submitted to Company for Approval.

Contractor shall be responsible for completion of general visual surveys prior to and following completion of remedial works.

## **9.6 Debris**

Contractor shall be responsible for the removal of, without limitation, all of Contractor's waste, temporary installation aids, other temporary equipment deployed by Contractor, as part of the installation of the Work, failed components and tooling.

## **9.7 Contractor's Marine Spreads**

Marine installation activities shall be conducted in compliance with Applicable Laws and the Agreement.

Contractor's Spreads shall include, without limitation, all required Personnel, procedures, management systems, equipment, tooling, consumables and spare parts on board as required to perform the Work.

Contractor's Spreads shall incorporate current technologies such that operations can be conducted in alignment with current industry standards with required redundancy and safety systems ensuring Work can be executed safely, thus minimizing risk to Personnel, equipment and the environment.

Contractor shall maximize the use of Nova Scotia and Newfoundland & Labrador residents in operating the Contractor's Spreads.

Contractor shall submit to Company within ninety (90) days of the Effective Date, the internal audit schedule and the latest full marine audit(s) for the Contractor's Spreads specified in the Agreement.

Contractor shall complete a full audit of the Contractor's Spreads one hundred twenty (120) days prior to mobilization. Contractor shall present the results of the audit to Company within fifteen (15) days of the audit.

Company shall attend Contractor's internal audits and participate in the Audits at the sole discretion of the Company.

Contractor shall present to Company, one hundred twenty (120) days prior to mobilization of each vessel for the Work, a report of all vessel defects that may affect the operation of the vessel with regard to the Work, together with a remedial work plan for said defects.

Contractor shall provide Contractor's Spreads equipment information and certification upon Company request. Company shall inform Contractor of any noted defects in aforementioned report. Contractor shall remedy any noted defect prior to mobilization for the Work.

### **9.8 Limiting Environmental Criteria**

The Contractor shall establish limiting environmental criteria (wind speed, sea state, current etc.) for the safe execution of all marine operations. Company shall Approve the limiting environmental criteria for suspension and resuming of the Work which shall be defined in detail in each of the load out manuals, marine transportation manuals and installation manuals.

The Contractor shall perform engineering studies based on environmental conditions to ensure risk of damage to the cable system is insignificant.

### **9.9 Weather Forecasting and Contingency Plans**

The Contractor shall develop and submit site specific weather forecasting twice (2) daily and contingency plans for all marine operations. The plans shall include appropriate severe weather responses for all vessels during their planned operations.

## **10.0 SURVEY REQUIREMENTS**

### **10.1 General**

Contractor shall be responsible for all survey equipment and Personnel necessary to complete the Work. Contractor shall plan and perform the survey activities in accordance with the Agreement.

Contractor shall prepare detailed procedures for all survey activities prior to, during and post installation. The procedures shall describe all aspects of the survey activities including planning of operations, calibration, description and operation of all systems, checklists, survey works, processing of data and reporting. All survey procedures shall be issued to Company for Approval.

Contractor's equipment and systems shall be well maintained and tested and shall utilize current technology.

Contractor shall be responsible for supply, installation, calibration and operation of all positioning systems and aids necessary to perform the Work.

Calibrations shall be fully documented and such documentation shall be provided to Company on request. In the event of replacement or repair of any equipment, calibration procedures shall be repeated in full.

## **10.2 Pre-Installation Surveys**

Prior to commencing any installation activities, Contractor shall carry out and record pre-installation surveys of the offshore Worksite(s). Contractor shall define pre-installation survey requirements using data from reports listed in Exhibit 6 – Company Supplied Document Listing.

Contractor shall be responsible for locating and confirming the position, configuration and status of the existing environment including without limitation, seabed features, obstructions, obstacles and debris in close proximity to the proposed Worksite(s).

Contractor shall submit the results of the pre-installation survey(s) to Company for review and Approval.

## **10.3 Installation Survey**

Contractor shall perform and record general visual surveys during installation activities as required to:

- a) Establish the current working position of the Contractor's Spreads at all times; and
- b) Ensure the correct installation of the Work in accordance with the requirements outlined in this Scope of Work, Exhibit 1A.

## **10.4 As-built Survey**

Contractor shall perform an as-built survey of all aspects of the Work both on shore and offshore. Any cable free spans or anomalous incidents identified shall be inspected to identify their nature and extent.

Contractor shall provide Company with the results of the as-built survey, and shall identify for Company's Approval any remedial measures proposed. All components requiring remedial works shall be re-surveyed as necessary to establish the final as-built system condition.

This survey shall provide one hundred per cent (100%) coverage of all cables including route covered by cable protection and landfall, and include video documentation and multi-beam sonar survey.

Contractor's as-built survey shall include sufficient information, as required by Company to form the baseline survey for future inspection, repair and maintenance activities.

Contractor shall deliver all records, charts, videos and other information recorded during the survey, including native formats, to Company for Approval as per the requirements of Exhibit 4 – Coordination Procedure.

## **11.0 MECHANICAL COMPLETION**

Mechanical completion requirements noted herein are defined to ensure and verify that systems and equipment have been completed, inspected, tested and preserved in accordance with design drawings, specifications and standards.

Documentation shall be provided as part of a mechanical completion dossier in two phases as follows:

1. Manufacturer's Data Books
  - Performed at Contractor or Subcontractor facilities and contains information required for systems and equipment manufacturing, supply and all testing.
  - Contractor shall provide manufacturer's data book, complete with signed punch list verifying completion of punch items, to Company for Approval.
  - Contractor shall provide manufacturing completion certificate to Company for Approval prior to mobilization of equipment from Worksite.
2. Installation Completion Dossier
  - Performed at installation site and contains information required for systems and equipment delivery, installation, protection, landfall, cable system pre-commissioning and transmission system commissioning support.
  - Contractor shall provide installation completion dossier, complete with signed punch list verifying completion of punch items, to Company for Approval.

- Contractor shall provide installation completion certificate to Company for Approval prior to departure of Contractor's Spreads from Worksite.

Contractor is responsible for all mechanical completion activities related to the Work and related equipment. Contractor mechanical completion documentation requirements are defined, without limitation, as Delivery and Company Approval of the following:

1. Manufacturer's Data Books:
  - a. Mechanical Completion Inspection Test Records (MCITR);
  - b. Punch list at factory release complete with remedial action plan;
  - c. As-fabricated drawings;
  - d. Final Completion Certificate;
  - e. Equipment list by part/serial/system number;
  - f. Preservation status;
  - g. Lifting weight and COG certificates, where applicable;
  - h. MSDS Sheets;
  - i. Change register (MOC, NCR, CRN, etc.);
  - j. Factory acceptance test records (FAT);
  - k. System integration testing records (SIT);
  - l. Testing records throughout manufacturing; and
  - m. Inspection release notes (IRN).
2. Installation Completion Dossier:
  - a. Mechanical Completion Inspection Test Records (MCITR);
  - b. Punch list at installation completion;
  - c. Final Completion Certificate;
  - d. Equipment list by part/serial/system number;
  - e. As installed drawings, sketches, route schematics;
  - f. Preservation status;
  - g. MSDS sheets;
  - h. Change register (MOC, NCR, CRN, etc.);
  - i. Offshore DPRs and ROV logs; and
  - j. As built video and multi-beam sonar surveys.

The activities to be carried out by Contractor for execution of mechanical completion include without limitation:

- a) Identification and preparation of all mechanical completion documentation as defined herein to address the mechanical completion activities for Work;
- b) Arrange for execution, witnessing of the inspections and tests, and signing off the inspection and test records by appropriate parties;

- c) Contractor shall submit a plan for execution of the mechanical completion program within thirty (30) days of the Effective Date of the Agreement to Company for review and Approval; and
- d) Compile and submit mechanical completion documentation to Company for review and Approval.

Contractor shall ensure that all mechanical completion documentation is completed in a timely manner and shall form the basis for care, custody and handover of the Work at the completion of pre-commissioning.

## **12.0 QUALITY MANAGEMENT**

Contractor shall comply with all quality requirements of Exhibit 6 – Company Supplied Document Listing and Exhibit 4 – Coordination Procedures.

Contractor shall have an effectively implemented quality management system that shall, as a minimum, be compliant with the requirements of ISO 9001: 2008 – Quality Management System Requirements.

Contractor shall retain complete records that demonstrate the Work provided meets all the specified requirements and that the quality management system is effective all in accordance with the requirements outlined in Exhibit 4 – Coordination Procedures.

Contractor shall report, with respect to the Work, all Non-conformances generated in the engineering, manufacturing, fabrication, installation, and/or service delivery process in accordance with the requirements outlined in Exhibit 4 – Coordination Procedures.

Company may at its sole discretion, perform surveillance audits and use other verification tools to verify the performance of Contractor and of Contractor's Subcontractors to ensure compliance with relevant quality requirements in all areas during the execution of the Work.

## **13.0 HEALTH, SAFETY, ENVIROMENT AND SECURITY**

Company shall comply with all environment, health, safety and security requirements of Exhibit 4 – Coordination Procedures.

Contractor shall have effectively implemented a safety management system that shall, as a minimum, meet the intent of the Company's requirements as set forth in the Agreement.



Company shall have the right to perform surveillance audits and use other verification tools to verify the performance of Contractor and of Contractor's Subcontractors to ensure compliance with relevant HS&E and security requirements in all areas during the execution of the Work.

**EXHIBIT 1B**  
**CABLE SYSTEM PERFORMANCE SPECIFICATION**

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## 1.0 INTRODUCTION

### 1.1 Purpose

This specification defines the minimum requirements for the mass impregnated and polymeric insulated high voltage direct current (HVDC) cables and accessories for the execution of the Maritime Link Project, located on the East Coast of Canada.

Contractor shall be responsible for the design and engineering necessary for successful execution of the Work.

The Work shall be subject to third party Approval by verification body as determined necessary by Company.

## 2.0 ABBREVIATIONS

AEIC	Association of Edison Illuminating Companies
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
CEC	Canadian Electric Code
CIGRE	Conseil International Grands Reseaux Electriques
CSA	Canadian Standard Association
DC	Direct Current
DTS	Distributed Temperature Sensing
HDD	Horizontal Directional Drilling
HDPE	High-Density Polyethylene
HVDC	High Voltage Direct Current
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
ISO	International Organization for Standardization
ISTA	International Safe Transit Association
LCC	Line Commutated Conversion
NBC	National Building Code of Canada
NEMA	National Electrical Manufacturers' Association

NRCAN	Natural Resources Canada
OECD	Organization for Economic Cooperation and Development
OHL	Overhead Line
OPGW	Optical Power Ground Wire
OTDR	Optical Time Domain Reflectometry
ROV	Remote Operated Vehicle
SCADA	Supervisory Control and Data Acquisition
TDR	Time Domain Reflectometry
VSC	Voltage Source Converter

### **3.0 CODES, STANDARDS, SPECIFICATIONS, RULES, REGULATIONS, GUIDELINES AND RECOMMENDED PRACTICES**

#### **3.1 General**

Contractor shall conform to the relevant sections of all statutory requirements and Applicable Laws. In the event of conflict, inconsistency or ambiguity between the Agreement, Exhibit 1 – Scope of Work, Applicable Laws, and Section 3.2 of this specification or any other Company documents, Contractor shall refer to Company, whose decision shall prevail and be binding.

The items in Section 3.2 shall be used by Contractor and Subcontractors who perform the Work. It shall be the responsibility of Contractor to ensure that all Subcontractors adhere to these requirements.

Contractor shall equip themselves with the latest copies of all the codes, standards, specifications, rules, regulations, guidelines and recommended practices referred to in this document and shall be fully conversant with their requirements and applications.

The latest revisions effective upon commencement of the Agreement (including supplements) of the items in Section 3.2 shall be used unless otherwise indicated by Company. In the event of conflict between the requirements of the following documents, the most stringent requirements shall be utilized.

Contractor shall be responsible for bringing to the attention of Company the impact of any subsequent revisions or published amendments to the items in Section 3.2, which have a bearing on the execution of the Work.

### 3.2 Governing Documentation

The cable system shall comply with the following:

AEIC CS4	Specifications for Impregnated Paper Insulated Low and Medium Pressure Self-contained Liquid Filled Cable
ASME B31	Standards of Pressure Piping
ASTM B749	Standard Specifications for Lead and Lead Alloy
ASTM D202	Sampling and Testing Untreated Papers for Electrical Insulation
ASTM A53	Specification for Pipe, Steel, black and Hot-Dipped, Zinc Coated Welded and Seamless
ASTM A123	Zinc (Hot Dip Galvanized) Coating on Iron and Steel Product
ASTM A153	Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware
ASTM B3	Standard Specification for Soft or Annealed Copper Wire
ASTM B187	Standard for Copper Bus Bar, Rod and Shapes and General Purpose Rod, Bar and Shapes
ASTM B230	Standard Specification for Aluminum 1350 H19 Wire for Electrical Purposes
ASTM B233	Standard Specification for Aluminum 1350 Drawing Stock for Electrical Purposes
ASTM B400	Standard Specification for Compact Round Concentric Lay Stranded Aluminum Conductors
ASTM B496	Standard Specification for Compact Round Concentric Lay Stranded Copper Conductors
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort
ASTM D4059	Standard Test Method for Analysis of Polychlorinated Biphenyls in Insulating Liquids by Gas Chromatograph
BS EN 50307	Lead and Lead Alloys
CEC	Canadian Electrical Code
CSA A-23.1	Standard for Concrete Materials and Methods of Concrete Construction
CSA A-23.2	Test Methods and Standard Procedures for Concrete
CSA G40.20	General Requirements for Rolled or Welded Structural Quality Steel

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CSA G40.21	Structural Quality Steels
CSA G164	Hot Dip Galvanizing of Irregularly Shaped Articles
CSA W59	Welded Steel Construction (Metal Arc Welding)
Electra 28	The Design of Specially Bonded Cable Systems
Electra 128	Guide to the Protection of specially bonded Cable Systems against sheath Overvoltages
Electra 141	Guidelines for tests on high voltage cables with extruded insulation and laminated protective coverings
Electra 171	Recommendations for Mechanical Tests on Submarine Cables
Electra 189	Recommendations for testing of long AC submarine cables with extruded insulation for system voltage above 30 (36) to 150 (170) kV
Electra 189	Recommendations for tests of power transmission DC cables for a rated voltage up to 800 kV
Electra 218	Addendum to: Recommendations for tests of power transmission DC cables for a rated voltage up to 800 kV
CIGRE TB 86	Overvoltages on HVDC Cables
CIGRE TB 151	Guidelines for Insulation Coordination in Live Working
CIGRE TB 189	Insulation Co-ordination for HV AC Underground Cable System
CIGRE TB 194	Construction, Laying and Installation Techniques for Extruded and Self-contained Fluid Filled Cable Systems
CIGRE TB 219	Recommendations for testing DC extruded cable systems for power transmission at a rated voltage up to 250 kV
CIGRE TB 268	Transient Voltages Affecting Long Cables
DnV-RP-B401	Cathodic Protection Design
DnV-RP-E305	On-Bottom Stability Design of Submarine Pipelines
DnV	Rules for Planning and Execution of Marine Operations
BS EN 10204	Metallic Materials: Types of Inspection Documents
IEC 60071	Insulation Coordination
IEC 60050	International Electrotechnical Vocabulary
IEC 60060	High-Voltage Test Techniques
IEC 60141	Tests on oil-filled and gas pressure cables and their accessories
IEC 60183	Guide to the Selection of High Voltage Cables
IEC 60228	Conductors of Insulated Cables



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IEC 60229	Electric Cables – Tests on extruded oversheaths with a special protective function
IEC 60230	Impulse tests on cables and their accessories
IEC 60287	Electric Cables – Calculation of the current rating
IEC 60332	Tests on electric and optical fiber cables under fire conditions
IEC 60529	Degree of Protection Provided by Enclosures
IEC 60793	Optical fibres
IEC 60794	Optical fibre cables
IEC 60811	Common test methods for insulating and sheathing materials of electric cables
IEC 60815	Guide for the Selection of Insulators for Polluted Conditions
IEC 60825	Safety of Laser Products
IEC 60853	Calculation of the Cyclic and Emergency Current Rating of Cables
IEC 60885	Electrical Test Methods for Electric Cables
IEC 60949	Calculation of thermally permissible short-circuit currents, taking into account non-adiabatic heating effect
IEC 61443	Short-circuit temperature limits of electric cables with rated voltages above 30 kV ( $U_m = 36$ kV)
IEC 61463	Bushings – Seismic Qualifications
IEC 62067	Power cables with extruded insulation and their accessories for rated voltages above 150 kV ( $U_m = 170$ kV) up to 500 kV ( $U_m = 550$ kV) – Test methods and requirements
IEC 62271	High-voltage switchgear and control gear
IEEE 400	Guide for Field Testing and Evaluation of the Insulation of Shielded Power Cable Systems
IEEE 404	Standard for Extruded and Laminated Dielectric Shielded Cable Joints Rates 2500 V to 500 000 V.
IEEE 693	Recommended Practices for Seismic Design of Substations
IHO No. 44	Standards for Hydrographic Surveys
ISO 9001: 2008	Quality Management Systems – Requirements
ISO 14001: 2008	Environmental Management Systems – Requirements with Guidance for Use
ISTA 1A	Non-simulation Integrity Performance Tests

ITU-T G.650	Test Methods for single mode fiber
ITU-T G.652	Characteristics of a single-mode optical fiber cable
ITU-T G.654	Characteristics of a cut-off shifted single-mode optical fiber cable
ITU-T G.978	Characteristics of optical fibre Submarine Cables
ITU-T L.36	Single mode fibre optic connectors
NBC	National Building Code of Canada
NEMA ICS-1	Industrial Controls and Systems: General Requirements
OHSAS 18001	Occupational Health and Safety Management Systems
TIA-598-C	Optical fibre cable color coding

## **4.0 REQUIREMENTS**

### **4.1 General Requirements**

The cable system shall be designed, manufactured, and tested to meet or exceed the requirements set forth in this specification. Compliance shall be demonstrated by Approval of the Work by Company, in accordance with the terms of the Agreement.

Contractor shall review and implement any additional criteria defined within the applicable codes, standards, guidelines and regulations required to perform the Work.

Contractor shall define the cable system, accessories and equipment required including terminations, joints, pulling devices, installation aids, corrosion protection, abrasion protection for the described operation, transportation, installation and all other ancillary equipment required to perform the Work.

Detailed design documents shall state maximum environmental service loads in the proposed as-installed condition and installation loads applicable to each cable design.

The design objectives shall be to maximize reliability and longevity of the cable system, minimize operation and installation cost, and to minimize maintenance requirements, while maintaining performance requirements in the specific site application. The cable system supplied by Contractor shall be qualified for service as per the requirements defined herein. This includes all components of the cable system which form part of the Work.

## Cable System Performance Specification

The following general requirements shall be adhered to without limitation:

- a) Be capable of continuous operation in the natural and operating environment for the specified design life. Details of the operating environment are provided in Exhibit 5 – Company Supplied Items and Exhibit 6 – Company Supplied Document Listing;
- b) Be operable in either bi-pole or mono-pole configuration using Voltage Source Converters;
- c) Be suitable for power flow in either direction;
- d) Be fully compatible with all Company Supplied Items outlined in Exhibit 5 – Company Supplied Items and Company’s Other Subcontractor’s supplied items;
- e) Cables shall be transported in a manner such that minimal torsional stress is applied to the individual components;
- f) The structural strength of the HVDC submarine cables shall be such that they can be installed, protected, buried, recovered, or covered with rock berm as needed in the specified water depths and environmental conditions, without being damaged;
- g) The structural strength of the HVDC land cables shall be such that they can be installed, protected, buried, recovered and repaired as needed in the specified environmental conditions without risk to integrity;
- h) Be supplied such that the number of factory and field joints utilized throughout all phases of the Work are minimized;
- i) Undergo successful testing which meets the acceptance criteria established in the Agreement;
- j) Provide replenishment of mass impregnating fluid as required to protect the cable system for its design life, through a termination reservoir system (mass-impregnated only);
- k) Be fully compatible with the installation methods and equipment;
- l) Be fully corrosion protected for the design life;
- m) Be supplied free of damage; and
- n) Be manufactured of new materials only.

## **4.2 System Requirements**

### **4.2.1 General**

Two (2) cables shall be installed between the transition compounds located on either side of the Cabot Strait. The expected operating philosophy will be to have one (1) cable operating on the positive pole, and one (1) cable operating on the negative pole.

Emergency sea electrodes, installed by Company will be located remotely from the cable crossing to allow the system to remain operational in mono-pole mode, in the case of a pole loss. There will not be a direct interface between the sea electrodes and the cable terminals.

### **4.2.2 Design Voltage and Power**

The cables and associated accessories will be designed for bi-pole operation, but with the ability to operate in mono-pole mode as required. The cables shall be rated for the system parameters as specified in section 4.2.10.

### **4.2.3 Current Ratings**

The cables shall be designed to operate at current ratings as defined in the table in section 4.2.10.

### **4.2.4 Reliability**

Mass-impregnated cables shall be of a proven design that has a high standard of reliability in service, with a minimum of ten (10) years previous satisfactory operating performance without internal failures of cable or accessories.

Polymeric cables shall be of a proven design that has a high standard of reliability in service, with a minimum of five (5) years previous satisfactory operating performance without internal failures of cable or accessories.

### **4.2.5 Design Life**

The HVDC cables shall have a design life of fifty (50) years continuous DC operation at rated capacity.

#### 4.2.6 Design and Manufacturing Validation

Design and manufacture of the cable system shall be validated by test reports and may be verified by an independent verifying body at Company's discretion. Test reports shall be supplemented with data from mechanical and electrical tests, material selection justification and documentation outlined within the Agreement.

#### 4.2.7 Operability and Maintainability

The cable system shall be designed and manufactured such that minimal maintenance is required for the design life of the cables, other than annual external inspections where possible.

#### 4.2.8 Seismic Design Requirements

Seismic designs for the cable system shall be in accordance with IEEE 693 and the NBC, as defined by region-specific seismic loading criteria provided by NRCAN. Seismic design shall apply to the cable termination support foundations, structural steel, and terminations, and all other components of the cable system.

#### 4.2.9 Insulation Coordination

Surge arrestors shall be designed, supplied and installed by Contractor as described within Exhibit 1A – Scope of Work. A cable system insulation coordination assessment shall be completed and submitted by Contractor in general accordance with the principles and methods provided in CIGRE TB 86, TB 189, TB 268 and IEC 60071. The assessment shall be coordinated and functionally integrated with the HVDC transmission system, including overhead lines and converter stations, culminating in the required arrester ratings and characteristics.

#### 4.2.10 System Design Specifications

##### 4.2.10.1 Cabot Strait System Electrical Specifications – Base Option

PARAMETER	VALUE
Rated System Voltage	$\pm 200$ kV DC
Rated Total Bipole Transmission Capacity (Continuous)	500 MW (250 MW per pole)
Nominal Current Rating	1250 A
Converter Technology	VSC

#### **4.2.10.2 Field Design Conditions**

Environmental field design conditions are provided in Exhibit 5 – Company Supplied Items and Exhibit 6 - Company Supplied Document Listing.

The cables and associated accessories shall be designed, at a minimum, for these conditions.

#### **4.2.11 Cable Construction**

##### **4.2.11.1 Conductor**

Each cable shall be single core design. The conductor shall be sized to transmit the required current while meeting the environmental, operating and installation requirements. The conductor shall be designed to withstand the mechanical loads applied to it during all phases of installation and possible future repairs.

Mass-impregnated cable conductors shall be of highly compact circular design, constructed of aluminum or copper wires, manufactured and tested as per IEC 60228.

Polymeric cable conductors shall meet the requirements of IEC 60228, Class 2, and be constructed from copper wire.

Polymeric cable conductor strands shall be filled with a water blocking material, proven suitable for a submarine cable application in greater or equal water depths, and tested in accordance with ICEA T-31-610 or equivalent and Electra 171.

The conductor screen shall be mechanically bonded to the insulation and provide an electrically smooth semi-conducting interface between the conductor and insulation.

##### **4.2.11.2 Insulation**

Mass impregnated cables shall be insulated with high density tapes such as lapped kraft paper, specially selected in width and thickness across the insulation, and to assure high electrical performance for DC applications.

The insulation screen shall provide an electrically smooth semi-conducting interface between the insulation and the overlying sheath. The insulation and screen shall be fully impregnated using a special degassed, high viscosity insulating compound, developed specifically for HVDC mass impregnated, non-draining cable applications.

Polymeric cable insulation shall consist of a clean, dry, polymer compound specifically formulated for use with HVDC cable systems connected to voltage source converters, to minimize space charge accumulations. The conductor screen, insulation and insulation screen shall be extruded simultaneously in a true triple head extrusion process. The conductor and insulation screens shall be mechanically bonded to the insulation and provide an electrically smooth semi-conducting interface between the insulation and the adjacent conducting components.

#### **4.2.11.3 Metallic Sheath**

The metallic sheath shall be resistant to fatigue and be of a 'high creep ductility' lead alloy. The sheath shall be free from all defects due to the extrusion process. The cross-sectional area shall be sized such that it is able to withstand all mechanical stresses for all phases of the Work. It shall also be capable of withstanding fault currents and other abnormal currents associated with converter commutation failures.

In addition to the above, the metallic sheath for polymeric cables shall be provided with a water-blocking cushioning material under it.

#### **4.2.11.4 Over-sheath**

The metallic sheath shall have an extruded anti-corrosion insulating over-sheath (jacket) made of polyethylene or equivalent, applied over the entire circumference.

#### **4.2.11.5 Armour**

Submarine cables shall be provided with armouring suitable to withstand all installation, rock placement protection, trenching, and environmental loading. The armouring shall be torque balanced.

The requirement for armouring any or all portions of the land cable(s) shall be determined by Contractor and Approved by Company. As a minimum, the cables shall be designed to accommodate the forces required for installation and protection in land trenches as described in Exhibit 1A – Scope of Work.

Bedding for the armour wires shall be a layer of material such as polypropylene yarn and shall be flushed and coated with a material such as hot bitumen.

The armour wires shall be hot dipped zinc galvanized steel and meet the requirements of ASTM A123. Armour wires shall be flushed and coated with a fluid such as hot bitumen to assist with corrosion protection for the required fifty (50) year design life.

#### **4.2.11.6 Outer Serving**

The outer serving for the submarine cable shall be a strong, abrasion resistant material such as polypropylene yarn. The inner layer shall be flushed with a material such as hot bitumen.

In the event that portions of the submarine cable are installed in conduits, the outer serving may alternatively consist of abrasion resistant material such as high density polyethylene, to provide improved performance in wear resistance and reduced friction. Outer serving material shall consider the cable's ability to meet thermal and mechanical aspects of the system requirements, as well as all other phases of the Work.

The outer serving shall be able to resist abrasion from a long conduit pull-in if required, or other installation operation without separating, wearing through or causing the cable to jam in any conduit.

The outer serving layer of the submarine cable shall contain markings to improve visibility to ROV cameras regardless of laid orientation on the seabed and to estimate cable length increments and joint locations.

The outer serving must be designed and constructed so that damage to it shall not impact the design life and integrity of the cable.

Outer serving for the land cables, is the same as the over-sheath, and shall be an abrasion resistant material such as high density polyethylene, to withstand installation in land trenches and contact with ground and rock, without failure.

Land cable outer serving shall be provided with appropriate markings.

Outer serving integrity must not be compromised at any time during the execution of the Work.

#### **4.2.11.7 Control of Voltage Differences between Sheath and Armour**

Contractor shall provide calculations describing the voltage differences that could arise between sheath and armour, and methods to ensure that they are within pre-defined safe levels. Calculations and conclusions shall be provided as part of the Insulation Coordination Study described in 4.2.9.



#### **4.2.12 Joints**

All factory and field joints shall adhere, as a minimum, to the same or better requirements and criteria specified for the cable.

Transition joints shall be supplied and utilized for the submarine to land cable transition. Armour anchors and clamps shall be incorporated as needed. The transition joints shall adhere to the same or better requirements and criteria specified for the cable.

Metallic casings surrounding the internal stress control components shall be water tight and highly corrosion resistant. Joints shall be provided with components that do not cause galvanic corrosion between one another.

Contractor shall design and supply appropriate cable anchoring devices and installation methods on land, to minimize submarine cable forces from being transmitted to the land cables and to prevent submarine or land cable forces from being transmitted to terminations.

### **4.3 DTS**

#### **4.3.1 General Requirements**

As per Exhibit 1A – Scope of Work, all cables shall be equipped with embedded fibre optics for DTS within the near shore and land portions of the cables, for a total length on each end of the cable system of five (5) km. Fibre optics shall be provided within tube element(s) of a material such as ANSI 316 Stainless Steel. The tube element(s) shall be manufactured in the longest lengths possible and spliced as necessary for the longest delivered cable lengths. The tube(s) shall be filled with a water blocking compound incorporating a hydrogen scavenger.

The embedded fibre shall meet the requirements of ITU-T G.652. Testing shall be carried out in accordance with IEC 60793 and IEC 60794. Fibre color coding and components shall be according to TIA-598-C.

The Raman system of measurement or technical equivalent shall be used for the DTS measurement of temperature.

The number of fibres used inside the steel tube element shall be maximized to provide redundancy. DTS data output shall interface with Company's SCADA systems. Contractor shall embed the fibre tube element(s) into the cable and allow for tension, bending, and torsional forces which will act on the cable throughout the Work and design life.

The fibre optic components shall be terminated by Contractor within enclosure panels within the transition compounds.

#### **4.3.2 DTS Specific Requirements**

The DTS system shall be supplied to perform the function of continuously monitoring the temperature along the near shore and land portions of the cables. The DTS opto-electronic measurement units shall be placed in the transition compounds on the Newfoundland and Nova Scotia sides of the Cabot Strait, and shall be interfaced by Contractor to a Company data concentrator or remote terminal unit to provide temperature profile information to a system control center at user defined intervals.

DTS Performance and operating requirements are as follows:

1. Shall provide temperature measurements on all cables for the specified lengths.
2. Spatial resolution for distance measurements shall be appropriately defined by Contractor and Approved by Company for the life of installation requirements.
3. Appropriate temperature resolution shall be defined by Contractor specific to the application and Approved by Company.
4. Shall operate continuously for the service lifetime with minimal requirement for maintenance.
5. Mean time between failures shall be maximized. The system accuracy and resolution shall be preserved for this timeframe.
6. Fibre optic operation and/or failure shall have no effect on cable integrity, throughout the Work and design life.
7. Laser output shall meet IEC 60825 class 1 laser safety requirements.
8. DTS unit shall be operable with 110-120 V, 60 Hz single phase power supply provided by Company. A back-up battery supply shall be provided and installed by Contractor.
9. Shall comply with the ISTA impact test procedure 1A drop method and vibration test method B or equivalent.
10. Software requirements for DTS are as follows:
  - a) Software supplied shall be a Company Approved program with graphical user interface for facilitating measurement setup (i.e., cable lengths, zones, trace identification and alarms).

- b) Output data shall be compatible with Company programs to allow for dynamic object linking with other application programs.
- c) Allow for simple user-labeling of zones, including but not limited to: Distance and mean, high and low temperatures in zones, hot spot locations, trace annotations and specified alarms for each measurement.
- d) Provide an auto-save feature that allows user controlled, time driven closing of data files as well as all other important parameters (defined by the Contractor) such as fibre attenuation characteristics and OTDR information, etc. Data shall be stored on solid state storage devices and shall be capable of transmission via OPGW to Company designated location.
- e) Permit periodic and automatic monitoring as well as recording of optical attenuation in sensing fibres at user-defined intervals.
- f) Be capable of allowing remote access and control of the DTS unit via ethernet or telephone dial-in.

#### **4.4 Corrosion Protection**

Contractor shall carry out all surface preparation work, apply the surface protection, and install permanent cathodic protection items as appropriate to achieve the required design life of the cable system.

Contractor shall perform quality surveillance on the cathodic protection system and shall perform an electrical continuity check and effectiveness survey for all cathodically protected items.

Cathodic protection systems shall protect the armour wires of all installed cables for the design life. A Cathodic Protection Design Report shall be prepared and submitted as part of the documentation submittal requirements. Contractor shall calculate the erosion and corrosion rates and demonstrate that the calculated metal loss shall not cause failure of the cable or accessory components in any area of the configuration. Cathodic protection system shall also protect any metallic cable conduits, and all permanent equipment installed by Contractor.

#### **4.5 Fibre Optic Telecommunications Cable (Optional)**

##### **4.5.1 General**

An external fibre optic submarine cable for telecommunications shall be supplied and installed in parallel with the HVDC submarine and land cables.

#### 4.5.2 Structural

The fibre optic submarine cable shall be designed to withstand all installation loads associated with installation in the water depths specified for the HVDC cable, protection methodologies, land installation methodologies, bundling to the HVDC cable, if required, and laying.

#### 4.5.3 Fibre Optics

The fibre optic cable shall include 24 fibre strands. The fibre optic strands contained within the fibre optic submarine cable shall meet or exceed the following specifications:

Description	Units	Specification
Fibre count		24
Type		ITU-T G. 654
Core Diameter	µm	10 ± 1
Core Refractive Index Difference	%	0.3
Cladding Diameter	µm	125 ± 2
Cladding Circularity Tolerance	%	< 2
Primary Coating Material		Silicon or acrylate resin
Maximum attenuation at 1550 nm	ps / nm km	≤ 18
Fibre splicing loss	dB	0.02
Insulation Materials shall be exclusively non-metallic		Yes
Temperature cycling without damage	°C	(-) 40 to (+) 90
Tensile load limit	N	2700
One time bending minimum bend radius	mm	10 x OD
Repeated bending minimum bend radius	mm	Maximum between 200, 10 x OD

#### 4.5.4 Splicing

The contractor shall perform field splicing at the optical cable junction box only, located on each side of the Cabot Strait in the vicinity of the transition compounds. The fibre optic cable shall be terminated at an optical junction frame which shall permit the interconnection between the fibres in the submarine electrical cable and those grouped in the OPGW at the transition compound.

Fibres shall be single mode, grouped in optical fibre units, and color coded for identification.

#### **4.5.5 Inspection, Testing and Reporting**

The fibre optic submarine cable produced under this specification shall be subject to inspection by Company.

Contractor shall give Company a minimum of 45 days' notice prior to the start of production of the submarine fibre optic cable to be made in accordance with this specification, allowing Company time to have a representative present for the tests as specified in the relevant standards and any other tests deemed necessary by Company or Contractor.

Procedures for testing not covered by the Agreement shall be in accordance with IEC, TIA and ITU-T standards. Contractor shall carry out the tests required at no cost to Company. These tests shall be witnessed by Company. Contractor shall carry out all tests as specified in the relevant standard and shall supply Company with copies of all test data obtained in hard and soft copy format.

Test of mechanical properties of structural components shall be made before stranding.

All fibre shall be tested on a reel using an Optical Time Domain Reflectometer (OTDR) and power meter. After optic fibre cables have been installed and spliced, each fibre channel shall be tested end-to-end by doing both a power meter test and OTDR. The tests shall be done before installation and after completion of the line (end-to-end). Any fibre that does not meet the specification shall be re-spliced or replaced. The test performed and the results shall be documented and provided to Company. Copies of the formal test report shall be submitted to Company for review and comment.

Contractor shall provide to Company copies of certificates proving that all the required tests have been carried out and that materials and fabrication comply with the specified requirements. No delivered of the Fibre optic submarine cable shall be made to site prior to Company approval of the test certificates related to the total quantity of reels in each particular delivery.

#### **4.6 Spares**

Cable system spares shall be supplied as outlined in Exhibit 1A – Scope of Work.

Spare cable and equipment shall be sealed and protected from the environment and be appropriately preserved for the design life of the cable system. This shall include without limitation, protection from moisture, corrosion, ultra violet light and

crushing. Contractor shall define all other equipment and accessories requiring spares in addition to those defined in Exhibit 1A – Scope of Work.

Spare terminations shall include all materials necessary to replace a damaged or failed termination.

Spares shall be packaged for fifty (50) years storage life where possible. All packaging must be marked with identification that will last for fifty (50) years of storage.

Contractor will be required to supply spares for the fibre optic system as per the Agreement.

#### **4.7 Cable Turntable/Carousel**

A cable turntable/carousel shall be provided for all submarine cable spares. The turntable shall be a metallic storage unit sized to accommodate all spare cable for the Project. If a turntable is used to transport the spare cable it shall be designed for ocean going transportation. The design life of the turntable shall be fifty (50) years. It shall be equipped with a removable rigid weather tight cover to protect against cable degradation from the environment, including moisture and ultra violet radiation.

The requirement for heating shall be assessed by Contractor and Approved by Company to ensure integrity of the cable for storage, handling and preservation.

The design shall allow for transpooling of the spare cable to a repair vessel as required to facilitate repairs to the operating cables.

The spare cable turntable shall withstand the seismic design requirements as specified in Section 4.2.8.

#### **4.8 Terminations**

The cable terminations shall be of air type and suitable for installation in an enclosed cable transition compound. The terminations shall be designed to meet the same electrical requirements as the cable and to operate in the particular ambient environmental conditions defined in Exhibit 5 – Company Supplied Items and Exhibit 6 – Company Supplied Document Listing.

Exposed metallic parts shall consist of materials that are suitable for a marine environment. Terminations shall be provided with components that do not cause galvanic corrosion between one another.

## Cable System Performance Specification

For a mass impregnated cable system, the terminations shall be equipped with a mass impregnation fluid replenishment reservoir as required to meet the system transmission requirements and design life. Termination oil pressure or volume shall be monitored by a manometer equipped with alarm functions, tied into Company SCADA system for remote warning of fluid conditions detrimental to design life of the cable system.

The terminations shall be provided with base plate support insulators, such as porcelain or technical equivalent, to isolate the metal base plate from the support structures for testing purposes.

The termination seismic design requirements shall be as described in 4.2.9.

Contractor supplied support structures shall be designed to withstand all forces exerted on the terminations throughout the design life of the cable system, including seismic forces and thermal-mechanical forces exerted by the cables throughout their design life. Design calculations shall be provided for review to show that this has been taken into account. Reinforced concrete foundations shall be designed to interface with Company provided transition compounds. Support structures shall be anchored to the foundations.

Terminations shall be equipped with a means to break out the fibre optic cables from the HVDC cables, to allow termination in the fibre optic enclosure panel.

Cable armour and sheaths shall be normally grounded at the terminations. However, provision shall be made to temporarily isolate sheaths and armour circuits from each other for testing purposes. Provision shall also be made to connect the cathodic protection system to the armour circuit, in accordance with design details to be submitted by Contractor.

Cable terminations and surge arresters shall interface with company provided overhead transmission line system components.

Creepage and clearance distances shall be determined by Contractor and Approved by Company. Physical electrical and mechanical protection barrier requirements shall also be determined and specified to Company by Contractor/mechanical barriers shall be provided between cable terminations to prevent an exploding termination from damaging an adjacent termination or other critical equipment.

## **5.0 TESTING**

### **5.1 General**

Recommended test and acceptance criteria for any of the following or additional testing proposed by Contractor and Approved by Company will become part of the Agreement.

Contractor shall perform tests to confirm that the cables and accessories have been manufactured to the applicable codes, standards, and recommended practices, and installed without damage.

### **5.2 Mass Impregnated Cable System Testing**

#### **5.2.1 General**

The following testing requirements apply without limitation:

#### **5.2.2 Type Tests**

Type testing shall be required in the instances of change in material, design, or process parameters outside previously type tested designs, such that there are resultant changes in dielectric, mechanical and/or thermal properties of the cable that may affect the design life or requirements of the Work.

Where the cable system has been successfully type tested previously, the complete results of the type testing, including Range of Qualification, shall be provided to Company.

Company may request that type testing be repeated for previously type tested designs.

Type tests shall be in accordance with Electra 171 and Electra 189. There may be a requirement by Company to modify the extent of the type testing scope defined within these recommendations to suit the specific needs of the Project.

#### **5.2.3 Routine Tests**

Routine tests shall be in accordance with Electra 189 recommendations and will verify that the product meets the design and manufacturing specifications.

Contractor shall perform the following routine tests, without limitation:

1. High voltage test: Performed on all manufactured length(s) of cable.
2. Conductor resistance test: Performed on all manufactured length(s) of cable.



3. Capacitance test: Performed on a sample length(s) of manufactured cable.
4. Power factor tests: Performed on a sample length(s) of manufactured cable.

#### **5.2.4 Factory Acceptance Testing**

The factory acceptance testing shall be carried out in accordance with the recommendations in Electra 189.

TDR measurements shall also be performed on all delivery lengths of cable.

#### **5.2.5 Special Tests**

Special tests will be required at the discretion of Company. However, Contractor may propose specific special tests deemed necessary to accomplish any or all portion of the Work. Tests shall be performed in conditions as close as reasonably practical to the installation and environmental conditions, particularly with respect to ambient temperatures. Special tests may include:

1. Dimensional control test: Shall be performed on sample length(s) of manufactured cable in accordance with IEC 60141.
2. Flexural rigidity tests – performed on a sample length(s) of submarine cable
3. Torsional rigidity and twist length (radians/m) tests – performed on a sample length(s) of submarine cable
4. Cable conduit pull-in tensile loading test – performed on a sample length(s) of submarine cable designed for conduit pull-in
5. Cyclic fatigue testing – performed on a sample length(s) of submarine cable to simulate the forces and strain exerted on the cable at vessel and touchdown points
6. DTS/fibre optic system tests - performed on all fibre optic components which form a part of the Work
7. External sheathing abrasion resistance test – performed on a sample length(s) of submarine cable designed for conduit pull-in
8. Spark/dielectric test: Performed in accordance with IEC 60229, Section 3.2, on delivery lengths of cable which have an extruded sheathing over the armour wires

For the embedded fibre optics, measurement of the attenuation in the optical fibres shall be performed before and after armoring in the instances where the fibre optics

are installed in place of an armour wire. Where fibre optics are embedded within the oversheath, the attenuation shall be measured before and after extrusion.

#### **5.2.6 Post Loadout Testing**

Following loadout of cable onto the installation vessel, post loadout testing shall be performed on all supplied cable. This shall consist of a high voltage test with the test conditions of the after laying test described in Electra 189.

TDR measurements shall be performed and recorded on each HVDC cable delivery length with a pulse echo meter.

An OTDR test shall be performed on the fibre optic cables following loadout.

#### **5.2.7 Post Installation Testing**

High voltage testing in accordance with the Electra 189 after laying test, shall be performed on all HVDC cables following installation and landfall of the submarine cables, and prior to rock placement or equivalent. Appropriate temporary terminations, high voltage test sets, or any other equipment required to complete the testing, shall be provided by Contractor as required.

This testing shall be completed prior to transition jointing of submarine cable with land cable.

#### **5.2.8 Post Termination Testing**

High voltage tests in accordance with Electra 189 shall be performed on all HVDC cables following permanent termination, and all protection and installation operations.

TDR measurements shall be performed and recorded on all HVDC cables following permanent termination at the transition compound.

Appropriate high voltage test and TDR test sets, or any other equipment required to complete the testing shall be provided by Contractor for post installation testing.

Cathodic protection system testing shall be performed following post termination of the cable.

### **5.3 Polymeric Cable System Testing**

#### **5.3.1 General**

In addition to the normal test requirements described in CIGRE Technical Brochure 219, the following testing requirements apply, without limitation:

#### **5.3.2 Pre- Qualification Test**

Pre-qualification testing shall have been performed previously on the cable system in accordance with CIGRE TB 219, requirements for VSC conversion technology. Pre-qualification testing will not be repeated provided that Contractor provides complete successful test reports from the previous program of identical cable system design and proves that the proposed Cabot Strait cables fall within the Range of Approval. Previously completed pre-qualification testing shall have included a factory joint and a field repair joint of each type.

A modified version of the CIGRE TB 219 requirements for VSC may be required to be performed by Company in the event that previous pre-qualification testing has not been performed on a cable system of similar design by Contractor. This modification may be designed such that the duration of the long term test program is shortened, in order to meet project schedule requirements. The pre-qualification testing, if repeated, shall also include one (1) factory joint and one (1) field joint of each type. Success criteria, re-testing and interruptions shall be in accordance with CIGRE TB 219.

#### **5.3.3 Type Tests**

Type testing shall be completed in accordance with CIGRE TB 219 recommendations for VSC conversion technology. The cable system type testing shall include as a minimum, in addition to CIGRE TB 219 requirements:

1. One (1) field repair joint of each type (possibly a rigid joint and a flexible joint)
2. One (1) submarine to land cable transition joint

Where a similar cable system has been successfully type tested previously, the complete results of the type testing shall be provided to Company, including proof that the proposed Cabot Strait cables fall within the range of qualification.

There may be a requirement by Company to further modify the extent of the type testing scope defined within CIGRE TB 219 to suit the specific needs of the Project.

#### **5.3.4 Routine Tests**

Routine tests shall be in accordance with CIGRE TB 219 and IEC 62067 recommendations and shall verify that the product meets the design and manufacturing specifications. Contractor shall perform the following routine test, without limitation:

1. High voltage test: Performed on all delivery length(s) of cable.

#### **5.3.5 Sample Testing**

Sample testing shall be performed in accordance with TB 219 and IEC 62067.

#### **5.3.6 Special Tests**

Special tests will be required at the discretion of Company. However, Contractor may propose specific special tests deemed necessary to accomplish any or all portion of the Work. Tests shall be performed in conditions as close as reasonably practical to the installation and environmental conditions, particularly with respect to ambient temperatures. Special tests may include:

1. Conductor Resistance Test: Shall be performed on all manufactured length(s) of cable with the results being in accordance with IEC 60228 Class 2 stranded conductors.
2. Cable Oversheath Test: Shall be performed on all delivery length(s) of cable in accordance with IEC 60229, Section 3.1.
3. Dimensional control test: Shall be performed on sample length(s) of delivery cable in accordance with IEC 60141.
4. Insulation capacitance test: Performed on sample length(s) of manufactured cable
5. Insulation volume resistivity test: Performed on a sample length(s) of manufactured cable
6. Loss angle test ( $\tan \delta$ ): Performed on a sample length(s) of cable
7. Flexural rigidity tests: Performed on a sample length(s) of submarine cable
8. Torsional rigidity and twist length tests (radians/m): Performed on a sample length(s) of submarine cable
9. Cable conduit pull-in tensile loading test: Performed on a sample length(s) of submarine cable designed for conduit pull-in if applicable

10. Cyclic fatigue testing: Performed on a sample length(s) of submarine cable to simulate the forces and strain exerted on the cable at vessel and touchdown points
11. DTS/fibre optic system tests: Performed on all fibre optic components which form a part of the Work
12. External sheathing abrasion resistance test: Performed on a sample length(s) of submarine cable designed for conduit pull-in

For the embedded fibre optics, measurement of the attenuation in the optical fibres shall be performed before and after armoring in the instances where the fibre optics are installed in place of an armor wire. Where fibre optics are embedded in the jacket, the attenuation shall be measured before and after extrusion.

### **5.3.7 Post Loadout Testing**

Following loadout of cable onto the installation vessel, post loadout testing shall be performed on all supplied cable. This shall be performed with conditions in accordance with the high voltage after installation test described in CIGRE TB 219.

Testing of the cable oversheath shall be performed post loadout in accordance with IEC 60229 Section 5.

TDR measurements shall be performed and recorded on each HVDC cable delivery length with a pulse echo meter.

An OTDR test shall be performed on the fibre optics following loadout.

### **5.3.8 Post Installation Testing**

High voltage tests in accordance with the after installation tests in CIGRE TB 219 shall be performed on all HVDC cables following installation and landfall of the submarine cables. Appropriate temporary terminations, high voltage test sets, or any other equipment required to complete the testing, shall be provided by Contractor as required.

This testing shall be done prior to transition jointing of submarine cable with land cable.

### **5.3.9 Post Termination Testing**

High voltage tests in accordance with the after installation tests in CIGRE TB 219 shall be performed on all HVDC cables following permanent termination of the cables, and all protection and installation operations.

TDR measurements shall be performed and recorded on all HVDC cables following permanent termination at the transition compound.

Tests on the cable oversheath shall be performed in accordance with IEC 60229 Section 5.

Appropriate high voltage test and TDR test sets, or any other equipment required to complete the testing shall be provided by Contractor for post installation testing.

Cathodic protection system testing shall be performed following post termination testing of the cable system.

### **5.4 Commissioning**

Commissioning of HVDC system including OHL and converter stations is currently scheduled to occur after the post termination testing performed by Contractor. During system commissioning the Contractor shall be present if required by Company, and provide support with any commissioning involving the cable system and accessories.

### **5.5 Results of Tests**

All results of tests performed as part of the requirements of this Agreement shall be provided to Company by Contractor.

Contractor shall provide to Company results of type tests which apply to the supplied cable design that have been performed prior to the Agreement.

### **5.6 Verification**

Company and Company's Other Contractors shall witness and verify testing as deemed required by Company.

**EXHIBIT 1C**

**VESSEL PERFORMANCE SPECIFICATION**

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## 1.0 GENERAL REQUIREMENTS

The installation vessel from Contractor's Spreads shall comply with the following specifications and requirements. At a minimum the primary installation and protection (if applicable) vessel, as part of the Contractor's Spreads, shall:

- a) Satisfy DP Class II;
- b) Include sufficient offshore personnel for continuous twenty four (24) hour operations;
- c) Satisfy the vessel assurance criteria defined in this Exhibit 1C – Vessel Performance Specification;
- d) Include suitable navigational, survey and communication systems to perform Work;
- e) Include a 2 off suitable work class ROV capable of executing the Work in Worksite environmental conditions;
- f) Comply with regulatory requirements for vessel operations in the vicinity of ice;
- g) Include a cable lay system capable of installation as per this Exhibit 1C – Vessel Performance Specification;
- h) As required, include jointing capabilities and equipment;
- i) As required, include lifting capabilities for overboarding, deployment of equipment to seabed and recovery for repairs;
- j) Include a deck/storage space for all permanent and installation equipment required;
- k) Include sufficient deck lighting for continuous twenty four (24) hour operations;
- l) Include accommodation for Company personnel during operations ;
- m) Include provision for transport and offloading of spares (if required);
- n) Include any additional support vessels or crafts required to perform the Work;
- o) A safe boarding system shall be provided to allow safe transfer to and from the vessel; and
- p) Include fast rescue craft as per regulatory requirements for Canadian waters.

## Vessel Performance Specification

Any additional transportation vessel(s) shall comply with the following specifications and requirements as part of the Contractor's Spreads:

- a) Include sufficient offshore personnel for continuous twenty four (24) hour operations;
- b) Satisfy the vessel assurance criteria defined in this Exhibit 1C – Vessel Performance Specification ;
- c) Include suitable navigational and communication systems to perform Work to specification;
- d) Comply with regulatory requirements for vessel operations in the vicinity of ice;
- e) Include a carousel / turn table system capable of marine-to-marine transpooling as per section 7.3.1 if required;
- f) As required, include lifting capabilities for overboarding and deployment of equipment and spares (if required);
- g) Include sufficient deck lighting for continuous twenty four (24) hour operations; and
- h) A safe boarding system shall be provided to allow safe transfer to and from the Vessel.

## **2.0 VESSEL CLASS**

The vessel(s) from the Contractor's Spreads shall be designed and constructed to the requirement of an internationally recognized classification society (e.g. Lloyds Register, ABS, or DNV) and meet regulatory requirements to allow importation.

In addition the Contractor's Spreads shall comply with relevant international regulations and guidelines required for work in Canadian waters.

## **3.0 COMMUNICATIONS**

The Contractor shall supply the mandatory communication equipment required by Safety of Life at Sea (SOLAS)/International Maritime Organization (IMO) for the registration class of and country of origins of the vessels involved.

## **4.0 LIFTING EQUIPMENT**

The definition of lifting equipment shall include, but not be limited to, cranes, hooks, slings, shackles, eyebolts, Spreader beams, trolleys, chain blocks and lifting frames.

## Vessel Performance Specification

All lifting equipment used by the Contractor is to adhere to, but not limited to, the following minimum criteria:

- a) All lifting equipment shall be certified and subject to inspection by Marine Warranty Surveyor;
- b) Contractor shall be responsible for ensuring compliance with the requirements of this section;
- c) All lifting equipment shall have a current valid certificate of test and shall be subjected to inspection, by a competent person at regular intervals;
- d) A register of all lifting equipment shall be held and maintained by the Contractor;
- e) Lifting equipment shall be checked before use, for any defects, which may affect its safe use;
- f) Defective lifting equipment shall not be used and shall be visibly marked as defective and placed in a quarantine area pending repair (if allowable) or replacement, the register shall be updated to record the removal from service and entering into service of all lifting equipment; and
- g) The Contractor shall supply all of the required slings and shackles for use with the crane. They must all be certified and color coded specific to project rigging to ensure identifiable among other non-project rigging.

All crane(s) shall be of a reputable make, have current / acceptable certification and be in good working order throughout the execution of the Work. The Contractor shall supply crane certificate(s) and crane lift chart(s) showing lift capacity plotted against radius that shall be approved by the Warranty Surveyor. On the same chart, the hook height vs radius plot should be included. The vessels main crane(s) shall be fitted with an automatic safe load indicator giving visual and audible alarms, which shall be demonstrated functioning correctly.

Crane operators shall be medically fit, trained, experienced and qualified in the type of crane they are employed to operate on the Work and shall have attended recognized crane operator's course.

## **5.0 OFFSHORE CONSTRUCTION TEAM**

The Contractor shall establish a dedicated and experienced offshore construction team, including construction superintendent, to manage and execute the Work on Contractor's Spreads.

## Vessel Performance Specification

All marine and construction Personnel shall be fully qualified for their tasks and must, where required, be fully certified by the appropriate Authorities. All key marine and construction Personnel shall be fully instructed during formal briefing/training sessions regarding the installation procedures prior to their involvement in the actual operations. Contractor shall supply a training matrix for all Contractor Personnel for Company Approval.

The Contractor shall ensure that certificates and curriculum vitae of all offshore Personnel are available for review both at the offshore Worksite and at the Contractor's project management office. The Contractor shall provide this information to the Company upon request.

Crews for Contractor's Spreads shall also contain sufficient, trained bridge, engineering and support personnel to safely operate and maintain the ROV's on a continuous twenty four (24) hour per day basis for the duration of cable laying, protection installation and as built inspections.

## **6.0 VESSEL ASSURANCE**

### **6.1 Contractor's Spreads Inspection**

Contractor's Spreads shall, at Company's sole discretion, undergo Company vessel audit(s) and inspection(s). The Company shall reserve the right to perform the aforementioned vessel audits. Audits may include:

- a) General vessel;
- b) HSE and quality;
- c) Offshore installation; and
- d) Onsite/offshore transpooling;

As part of the vessel audits the Contractor shall make available on each vessel all necessary documents pertaining to the Work including operating and safety procedures, certificates and documentation including:

- a) Propulsion systems;
- b) Power generation systems, including emergency back-ups;
- c) Communication, navigation and survey systems;
- d) Dynamic positioning systems;
- e) Cranes, davits and associated lift equipment;

## Vessel Performance Specification

- f) Winches and associated return sheaves/rollers;
- g) Tensioner/capstan;
- h) Cable conveyors, load cells and controls;
- i) Welding, NDT and repair stations and systems;
- j) Field joint systems;
- k) Cable installation monitoring systems;
- l) ROV system;
- m) Survey and navigational system;
- n) Fast rescue craft;
- o) Firefighting equipment; and
- p) Engine / maintenance / tool room

Valid Calibration test certificates / records for all cable installation equipment and load cells shall be performed and submitted to the Company for Approval. Where valid certification / records are not available, the Contractor shall perform tests as necessary for company approval.

## **7.0 INSTALLATION / PROTECTION VESSEL REQUIREMENTS**

### **7.1 SURVEY**

The Contractor shall provide all positioning survey systems required for survey and installation operations on the installation vessel. The Contractor is responsible for ensuring all survey equipment is in good working condition and the Contractor shall ensure adequate spares and back-up are available in the survey Spreads at all times to enable uninterrupted survey operations. The Contractor shall also be responsible for carrying out regular calibrations of all its equipment.

The survey requirements shall include pre/post lay survey, cable tracking, cable route as-left details and any other miscellaneous surveys required for installation.

All survey equipment shall be calibrated and tested prior to mobilization. Calibrations shall be fully documented and such documentation shall be provided to the Company on request. In the event of replacement or repair of any equipment, calibration procedures shall be repeated in full.

## **7.2 DYNAMIC POSITIONING SYSTEMS**

The Contractor's Spreads shall be fitted with dynamic positioning (DP) system with a minimum International Maritime Organization (IMO) Equipment Class 2 based on International Maritime Organization (IMO) circular 645 for DP system designs.

The Contractor's Spreads shall have redundant absolute and redundant relative positioning systems making it possible to work up close to other vessels in DP mode. The Contractor's Spreads must be manned with qualified DP officers and master on board.

## **7.3 CABLE LAY SYSTEM**

### **7.3.1 Turntable/Carousel**

The turntable and/or carousel shall satisfy the following requirements:

- a) Suitable storage and capacity to best optimize operations for the duration the cable is onboard the vessel;
- b) Provide protection such that the cable is not compromised during transportation and/or installation;
- c) Redundant and fail safe system such that there is no risk of compromising cable integrity in the event of breakdown; and
- d) Cable length tracking system to define amount of product installed and remaining on vessel.

### **7.3.2 Tensioner/Capstan**

The cable tensioning equipment for control of the suspended cable catenary shall satisfy the following requirements:

- a) Maximum and minimum tensions under dynamic operation conditions are not to exceed the prescribed cable stress limits;
- b) Redundant system with capability to provide maximum tension (i.e. dual tensioner system). If this requirement cannot be met then alternate methodology shall be proposed by the Contractor for Company Approval;
- c) Equipment shall be capable of displaying and recording real-time and continuous tension values and lay characteristics. This record is to be monitored via lay tables and shall be submitted to the Company in tabular and graphical format;

## Vessel Performance Specification

- d) The tensioner/capstan compression values shall not exceed the allowable compressive strength, sidewall pressure and bend radius limits of the cable; and
- e) Fail safe system such that there is no risk of compromising cable integrity in the event of breakdown.

Control systems with alarm which triggers when the safe limit is near exceedence shall be provided to monitor the tension forces and cable stress. Tensioners shall be calibrated based on the approved procedure and calibration is to be performed prior to commencement of cable lay.

### **7.3.3 Abandonment and Recovery System**

The primary installation vessel shall be equipped with abandonment and recovery system, with minimum requirements as stated below:

- a) Sufficient capacity to lay down and recover the cable end in the maximum encountered water depth (single catenary);
- b) Sufficient capacity to lay down and recover a damaged portion of the cable for inspection/repair in the maximum encountered water depth (double catenary);
- c) A compensated tensioning system that is capable of adjusting tension in response to wave-induced vessel and cable motion;
- d) Equipment to deploy and recover light equipment from vessel deck to/from seabed;
- e) Suitable over boarding chute/roller/sheave to allow safe and controlled over boarding of cable; and
- f) Redundant and fail safe system such that there is no risk of compromising cable integrity in the event of breakdown.

The winch control system shall allow smooth transfer of tension between winch and cable tensioning system.

### **7.4 ROV / SUBSEA EQUIPMENT REQUIREMENTS**

The Contractor shall document that the subsea equipment has been tested and commissioned to the maximum anticipated operating depth and environmental conditions. The subsea equipment shall be in fully serviceable condition with a full complement of electrical and mechanical spares to maintain continuity of operation, including spare umbilicals (if applicable) throughout the duration of the Work.

## Vessel Performance Specification

Only qualified personnel with job-specific training shall operate the subsea equipment. Operators shall be familiar with all special tools or hardware with which they will be involved.

Video recorders shall be used to record the subsea equipment activities and real-time audio voice-over to document the activities. Video recordings shall be in National Television System Committee (NTSC) format and be available to the Company representative onsite. High Definition (HD) Video shall be recorded on redundant hard drives and the appropriate file size / length labeled with coordinates.

A descriptive written log shall be maintained and the video recordings shall be identified and labeled by a distinct number and catalogued to indicate contents. Copies of the video recording logs shall be submitted to the Company. The original video recordings shall be the property of the Company and shall be submitted at the completion of the Work, as part of the as-built documentation.

Contractor is to provide subsea equipment which includes the following minimum criteria:

- a) HD Color camera with lights to suit camera sensitivity;
- b) Low light level camera;
- c) Dual camera capability;
- d) Manipulators (as required to perform work);
- e) Guards on all thrusters;
- f) Video overlay for equipment depth, heading, time, date;
- g) Professional quality DVD recorders/monitors;
- h) Reliable wired audio and visual communications between equipment, equipment control and Bridge;
- i) Obstacle avoidance sonar;
- j) Accurate depth gauge;
- k) Accurate gyro compass;
- l) Cable tracking capability (if applicable);
- m) Acoustic tracking capability; and
- n) Station keeping ability in currents identified in Exhibit 6 – Company Supplied Document Listing.



## Vessel Performance Specification

Equipment operating procedures and manuals developed by the Contractor for equipment operations are to be submitted upon request. A wet test of all subsea equipment shall be performed to ensure that all systems needed for the Work are in operation during the initial mobilization.

## 7.5 MONITORING EQUIPMENT

During installation of the cable the following parameters, without limitation, shall be monitored and recorded:

- a) Cable top tension and residual bottom tension via redundant calibrated load cells;
- b) Cable compressive loads;
- c) Cable Line-in/line-out meter;
- d) Continuous real time Vessel co-ordinates;
- e) Wind and wave speed and direction;
- f) Continuous real time cable touchdown co-ordinates and depth;
- g) Visual touchdown monitoring and recording;
- h) Cable departure angle from vertical and departure depth;
- i) Abandonment and recovery loads (if required);
- j) As-laid cable lay route; and
- k) As-built video of all critical operations.

Contractor shall be responsible for subsea and surface systems/signals, computers, software and interfaces required to perform the Work.

The monitoring equipment shall be accurate to provide the following installation criteria:

Operation	Installation Tolerance
Lay	+/- 3m
Termination head	+/- 5m X 2.5m target box, heading +/- 5°

## **7.6 ACCOMMODATION**

### **7.6.1 Galley**

The Contractor shall provide a well-equipped galley to a high standard and capable of providing daily meals for the whole crew on a continuous twenty four (24) hour basis.

### **7.6.2 Company Representative Accommodations and Office Requirements**

Contractor shall provide accommodation and messing onboard the installation / protection vessel for four (4) Company Representatives in four (4) separate single cabins, with dedicated toilet/shower for the entire offshore Work period. Company Representatives shall have full access to the Contractor Spread's medical, recreational and laundry services.

The following lists the minimum accommodation and office specifications for the Company on the Contractor's Spreads primary installation vessel:

- a) Fully furnished and equipped private office accommodation for up to four (4) Company Personnel;
- b) Hook up for high speed internet with dedicated printer and scan/fax;
- c) Private electronic mail and secure high speed internet connection for Company Representative;
- d) Access to copying and facsimile transmission and receiving facilities; and
- e) Telephone extension via Contractor's own network, with a direct outside line for exclusive use by Company Representative. All costs associated with Company's use of telephone, including calls, shall be included in the Price;
- f) Dedicated video feed for ROV's including set-up for simultaneous video recording and playback, carousel / turntable exit, tensioner / capstan and overboarding location;
- g) Standard office type desktop computer with current Microsoft Windows and Office software (English version) with dedicated printer and CD/DVD. Desktop computer shall be provided with all necessary software for review of Contractor's Drawings and/or documents;
- h) DP alarms;
- i) VHF radio; and
- j) Vessel internal intercom.

**EXHIBIT 2**

**COMPENSATION**

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**1.0 GENERAL**

- 1.1 Company shall compensate Contractor for the Work, in accordance with the provisions of this Agreement. Subject to any additional compensation pursuant to a Change Order, the amount of compensation payable to Contractor for the Work is limited to the amounts, rates and prices set out in this Exhibit 2.
- 1.2 All amounts, rates and prices stated in this Exhibit 2 shall be deemed to include, without limitation, Contractor's:
- (i) Costs for all matters relating to and associated with the performance of Work. Only those amounts, rates and prices specifically identified in this Exhibit 2 shall be paid by Company to Contractor for the Work, and costs not identified are deemed to be included in the amounts, rates and prices for the Work;
  - (ii) Corporate staff activities or any other corporate activities associated with the Work, or any part thereof;
  - (iii) All costs of Personnel and Taxes. Contractor shall be responsible for all Taxes, fees, dues, or any other charges, that may be levied by Authorities, related to the Work; and
  - (iv) Costs associated with premiums, renewals or liabilities which Contractor is obligated to pay or bear liability for in accordance with the insurance and indemnity provisions stated in the Articles of Agreement.
- 1.3 Amounts, rates and prices in this Exhibit shall not be subject to escalation for inflation or any other reason. The amounts, rates or prices shall not be subject to any condition, and are fixed.
- 1.4 All downtime required for Maintenance, or caused by a breakdown or loss of use of or damage to Contractor's Spread, Contractor Items or Contractor Group's property shall be deemed fully included in the Price.
- 1.5 Unless otherwise specifically stated, all amounts, rates and prices herein shall be in Canadian Dollars (\$CDN).
- 1.6 Invoices shall be issued by Contractor on a Milestone basis and in accordance with Article 12 of the Agreement, Exhibit 2 – Compensation and Exhibit 4 – Coordination Procedures.
- 1.7 For the purposes of Exhibit 2, 'UOM' shall mean unit of measure.

## 2.0 CABLE SUPPLY AND INSTALLATION

Contractor shall be compensated at the amounts set out in Table 1 below, for the referenced components of the Work, in accordance with the specified sections of the Exhibit 1 – Scope of Work. Delivery of materials shall be in accordance with the incoterms stated herein.

The amounts represent all costs, without limitation, associated with the performance of the Work and collectively form the Price of the Work.

Table 1

Item No:	Description	UOM	Amount
0.4.3	Cable Supply and Installation		
0.4.3.1	Cable Supply	lump sum	
0.4.3.2	Mobilization	lump sum	
0.4.3.3	Installation & Protection	lump sum	
0.4.3.4	De-mobilization	lump sum	
0.4.3.5	Documentation	lump sum	
4.4	Spares Supply	lump sum	
		<b>Price</b>	<b>\$ -</b>

## 2.1 CABLE SUPPLY AND INSTALLATION

### 2.1.1 Cable Supply

Supply of high voltage direct current (HVDC) cables, including submarine cable, land cable, terminations, submarine cable joint kits, transition joints, land cable joints, pulling heads, cable anchor and any other components and consumables as necessary to complete the cables from termination to termination, as specified in the Agreement. The lump sum Price shall be inclusive of any and all costs, without limitation, associated with design, manufacture, testing, preservation, storage, transport and delivery of the cable. Cable shall be delivered to the installation Worksite in eastern Canada in accordance with incoterms Delivered Duty Paid (DDP). Supply shall be deemed to be complete upon delivery of the cable to the installation Worksite, with Marine Warranty Surveyor acceptance and Company Approval of a manufacturing Completion Certificate.

### **2.1.2 Mobilization**

The amount(s) for mobilization includes all vessel and equipment preparations, including but not limited to; the engineering required to perform the Work; developing all necessary procedures; equipment and vessel modifications and upgrading; harbour and sea trials of equipment and vessel; testing of equipment and vessel; transport of Contractor's Spread to the Worksite; establishment of project offices (as applicable); project management and administration of mobilization activities, including without limitation, engineering, planning, quality assurance, quality control, port and harbour dues, logistical support (including crew changes, accommodations and messing for Company Representatives, reporting, weather forecasting), work permitting, Contractor Spread Taxes and duties; the preparation of all documentation required by Applicable Laws for operation of the vessel in Canadian waters; preparation of operating manuals and project procedures for Company review covering the mobilization; procurement of all consumables and any additional equipment required for performance of the Work and set up of all equipment and all other activities necessary to commence the Work. Mobilization shall be deemed complete when Contractor's Spread is at the installation Worksite, ready to perform Work in accordance with the requirements of this Agreement.

### **2.1.3 Installation & Protection**

The lump sum amount for cable installation includes any and all costs associated with the installation and protection of the cables as specified in the Agreement including, without limitation, Contractor's Items, project management and administration, port and harbour dues, Taxes and duties, Subcontractors, logistical support (including crew changes, accommodations and messing for Company Representatives, reporting, weather forecasting), procurement of all consumables and any additional equipment required for performance of the Work. Installation shall be deemed to begin upon completion of mobilization. Installation shall be deemed to be complete upon Company Approval of an installation and protection Completion Certificate.

### **2.1.4 Demobilization**

The lump sum amount for demobilization includes any and all costs, without limitation, associated with all activities required to return, and involved in returning, Contractor's Items and Contractor Personnel from the Worksite and/or project offices to Contractor's chosen location and project management and administration of these activities. Demobilization may begin upon Company acceptance of pre-commissioned cables and Company acceptance of Contractor demobilization.

### 2.1.5 Documentation

The lump sum amount for documentation includes all documentation deliverables as detailed in Exhibit 7 – Deliverables List or elsewhere in the Agreement. Final documentation will be considered complete upon Approval of all documentation by Company.

### 2.2 SPARES SUPPLY

Contractor shall supply spares as listed in Table 2 and as specified in the Agreement. The lump sum amount as specified in Table 1 shall be inclusive of any and all costs, without limitation, associated with design, manufacture, testing, preservation, storage, transport and delivery of the spares. Spares shall be delivered to a site in eastern Canada to be specified by Company in accordance with incoterms Delivered Duty Paid (DDP) plus offloading on the dock. For clarity in addition to DDP requirements, Contractor will be required to offload spares onto the dock. Supply shall be deemed to be complete upon delivery of materials and the submittal of final documentation to Company.

Table 2

Item	Description	UOM	Quantity
0.4.4.2	Submarine Cable Continuous length on turntable/carousel	meter	5000
0.4.4.3	Land Cable Continuous length on reel	meter	600
0.4.4.4	Terminations	each	2
0.4.4.5	Surge Arrestors	each	2
0.4.4.6	Submarine Cable Joint Kits	each	4
0.4.4.7	Transition Joint Kits	each	2
0.4.4.8	Land Cable Joint Kits	each	4
0.4.4.9	Cable Armor Anchors & Transition Bay	each	1
0.4.4.10	DTS Unit	each	1
0.4.4.11	Cable end Cap kits	each	4
0.4.4.12	Submarine Cable Pulling eye Kits	each	4



### 3.0 STANDBY AND WEATHER DELAY

Company shall reimburse Contractor, at the standby dayrate(s) specified in Table 3, for Weather Delay (waiting on weather) or because of a Company request. The standby dayrate(s) shall apply to Weather Delay when actual environmental conditions exceed those defined in Exhibit 12 – Contractor’s Facilities. The standby dayrate(s) shall be applied only in the event that Contractor’s Spread is physically ready to safely perform Work under the Agreement but, is not so engaged, because of a request of Company or because of Weather Delay.

Contractor shall not be reimbursed standby dayrate(s) for any time the Contractor’s Spread is unable to perform Work because of Contractor’s non-compliance with any safety regulations of Company; Contractor’s equipment breakdown; Mechanical Delay; time required for maintenance of any part of the Contractor’s Spread; mechanical or other failure of Contractor’s Items; lack or shortage of Contractor’s plant, equipment, vessels, materials, supplies, consumables, and/or Personnel; failure to obtain approvals, permits, licenses or consents or meet the requirements of any relevant Authority; or for any other reason whatsoever due to Contractor or Subcontractors or suppliers.

The standby dayrate(s) are based on a twenty-four (24) hour day and shall be prorated to the nearest hour for part days.

Contractor shall not be eligible for Weather Delay for Work performed after 00:01 hrs, 01 September, 2016.

Table 3

Item No:	Description	UOM	Amount
3.1	Cable Installation Spread Standby Dayrate	Day	
3.2	Cable Protection Spread Standby Dayrate	Day	
3.3	Land Cable Installation Spread Standby Dayrate	Day	
3.4	Other Spread Standby Dayrate	Day	

#### **4.0 MILESTONE PAYMENTS**

In accordance with Article 12, Company will pay the amount due to Contractor upon completion of a Milestone, for the lump sum prices specified in Table 1, based on the Milestone payment schedules and Milestone payment criteria referenced below. When Contractor achieves a Milestone (as identified in the Milestone payment schedule below), Contractor will present a Milestone Completion Certificate (Exhibit 4 Attachment 4-3), accompanied by all supporting documentation required to clearly and independently demonstrate to Company's satisfaction that the Milestone criteria has been met and the Milestone has been achieved.

#### **5.0 CHANGES**

Changes or Change Work shall not be billable under this Agreement unless authorized by an Approved Change Order to the Agreement. The prices and terms referenced in this Section will apply to all Changes, including additional work not contemplated in the Scope of Work, to the Agreement. Prices and rates outlined in this Section 5.0 will apply for both increases and decreases in the Work.

Where Change Work is carried out on a reimbursable basis, Contractor shall ensure that it provides all Billing Information which clearly supports the charges submitted for payment and clearly demonstrates achievement of criteria, progress of the Change Work or achievement of the Milestones contained therein, as the case may be.

Change Requests will be prepared in accordance with Article 26, using the process and forms outlined in Exhibit 4 – Coordination Procedures.

#### **5.1 PERSONNEL**

The Rates for Personnel, Table 4, shall cover all such costs including, but not limited to, salaries, overtime premiums, allowances, payroll burden, local transportation and travel within and between Contractor's offices and facilities, all Taxes, project and corporate overheads and profits.

Office hourly rates shall apply to the supply of Contractor Personnel for Change Work performed at Contractor's offices or Company's offices. No premium rates shall apply to work in excess of eight (8) hours per day, or hours worked on weekends or statutory holidays.

Site dayrate shall apply to the supply of Contractor Personnel for Change Work, such as Contractor call-out services in support of commissioning or witnessing work performed

by Company's Other Contractors, performed at the Worksite or other locations as requested by Company. The Site Day Rate is based on a 12 hour working day.

Contactor shall be reimbursed for actual time worked by Personnel on Approved Change Work as supported by daily time reports outlining number of hours worked in the day and the activities performed. Daily time reports shall be submitted for Company Approval on the day following the performance of the Change Work. Approved time reports shall be included with invoices as Billing Information.

Table 4

5.1.1	Junior Engineer	Hour	
5.1.2	Intermediate Engineer	Hour	
5.1.3	Senior Engineer	Hour	
5.1.4	Other - As applicable	Hour	
	<b>Worksite</b>		
5.1.5	Site Representative	Day	
5.1.6	Jointing Technician	Day	
5.1.7	Commissioning Support Technician	Day	
5.1.8	Other - As applicable	Day	

## 5.2 Materials

The rates for Changes to materials, quantities or sizing shall be in accordance with the rates provided in Table 5 below.

Changes in conductor cross sectional area shall be applied on a per 100mm<sup>2</sup> per meter basis. This rate, as specified in Table 5, item 5.2.1 shall include Changes to all other aspects of the cable construction associated with the conductor size change, including but not limited to conductor, conductor screen, insulation, insulation screen, swelling tape, metal sheath, protection and bedding, armour and serving.

Table 5

Item	Description	UOM	MI	Polymeric
			Rate	Rate
5.2.1	Changes (+/-) to cable cross-sectional area per 100mm <sup>2</sup> of conductor size change.	meter		
5.2.2	Submarine Cable	meter		
5.2.3	Land Cable	meter		
5.2.4	Terminations	each		
5.2.5	Submarine Cable Joint Kits	each		
5.2.6	Transition Joint Kits	each		
5.2.7	Land Cable Joint Kits	each		
5.2.8	Cable Armour Anchors	each		
5.2.9	DTS Units	each		
5.2.10	Landfall conduit land interface.	each		
5.2.11	Landfall conduit submarine interface.	each		

### 5.3 Equipment

The equipment rates specified in Table 6 include any and all costs associated with the operations and maintenance of the equipment during cable installation including, without limitation, project management and administration, adherence to Applicable Laws, Personnel, operating equipment, consumables (including fuel and lubricants), victualling, port and harbour dues, harbour tugs, pilotage fees, offshore communications charges, vessel surveys, shore base costs, cranes, security and office space. Contractor shall not be reimbursed for any time the equipment is unable to perform Work because of Contractor's non-compliance with any safety regulations of Company; Mechanical Delay; lack or shortage of Contractor's plant, equipment, vessels, materials, supplies, consumables, and/or personnel; failure to obtain approvals permits, licenses or consents or meet the requirements of any relevant Authority; or for any other reason whatsoever due to Contractor or Subcontractors or suppliers.

Table 6

<b>Item</b>	<b>Description</b>	<b>UOM</b>	<b>Rate</b>
5.3.1	Proponent to Specify		
5.3.2	Proponent to Specify		

#### **5.4 Third Party Services**

Third party services apply to materials or services which are required to perform reimbursable Change Work or for the provision of Company requested materials or services secured by Contractor on behalf of the Company. Company will reimburse Contractor for the actual, documented and necessary costs of such materials and/or services.

To be eligible for reimbursement, invoicing for third party services shall be fully supported by invoices, receipts and any other Billing Information that Company may reasonably require.

#### **5.5 Additional Services**

Additional services rates listed in Table 7 shall apply to Change Work and shall be supplied in accordance with requirements detailed below or identified in the Exhibit and Section referenced next to the item description in Table 7.

In the event the cable conduits required for landfall are not completed in time to allow the installation of cables in 2016, Contractor shall preserve (to prevent deterioration) and store the cables and spares at a secure location for a period of one (1) year for the lump sum rate provided in Table 7, item 5.5.4.

In the event that an unplanned cable jointing operation is required due to an emergency cable laydown for reasons of a Company Notice, excessive weather, ice or other, Contractor shall perform a cable jointing operation at the lump sum rate provided in Table 7, item 5.5.5. The lump sum rate for cable jointing shall be all inclusive, including without limitation, all necessary materials, consumables, Contractor's Items and Contractor's Personnel. For clarity, in accordance with Article 26 and Exhibit 4 – Coordination Procedures Contractor shall not be reimbursed for additional cable joints or other costs resulting from Mechanical Delay or other causes within the Contractor's reasonable control.

Table 7

Item	Description	UOM	Unit Rate
5.5.1	Contractor Spread Private Cabin	day	
5.5.2	Contractor Spread Office	day	
5.5.3	Worksite Office	day	
5.5.4	Cable and Spares Storage, handling & transport	lump sum	
5.5.5	Cable Jointing	lump sum	
5.5.6	Type Test	each	
5.5.7	Flexural Rigidity Test	each	
5.5.8	Torsional Rigidity Test	each	
5.5.9	Cable conduit pull-in tensile loading test	each	
5.5.10	Cyclic fatigue test	each	
5.5.11	DTS/Fiber optic system test	each	
5.5.12	External sheath abrasion resistance test	each	

## 6.0 PROJECT INSURANCE

Company may, at its sole discretion, have the Successful Bidder provide the below insurances.

Contractor shall provide the insurances specified in Agreement Article 20 at the lump sum amounts in Table 8.

Table 8

Item	Description	UOM	Amount
6.1	Construction All Risk Insurance (CAR) (20.1 a)	Lump Sum	
6.2	Comprehensive General Liability (20.1 b)	Lump Sum	

## 7.0 LIQUIDATED DAMAGES

If Contractor fails to achieve the key Milestone designated in Section 4.0 – Milestone Payments, meeting the Milestone dates and Milestone completion criteria set forth in Exhibit 11 – Milestone Schedule, Contractor shall pay to Company the liquidated damages stipulated in Table 9 for each day, or part day on a prorata basis, of delay until the key Milestone is achieved.

Table 9

Item	Key Milestone Description	UOM	Liquidated Damages
7.1	To be determined prior to award.	Day	To be determined prior to award

## 8.0 MOBILIZATION CALL-OUT WINDOW

To be extracted from Proponent Proposal as negotiated and agreed.

## 9.0 LANDFALL

At its sole discretion Company may have Contractor perform landfall detailed design based on Company supplied conceptual design and to manage the construction of the cable landfall using the rates and terms below.

### 9.1 Landfall Engineering

To the extent that landfall engineering is performed by the Contractor Personnel the following shall apply.

The Rates for Personnel, Table 10, shall cover all such costs including, but not limited to, salaries, overtime premiums, allowances, payroll burden, local transportation and travel within and between Contractor's offices and facilities, all Taxes, project and corporate overheads and profits.

Office hourly rates shall apply to the supply of Contractor Personnel for Change Work performed at Contractor's offices or Company's offices. No premium rates shall apply to work in excess of eight (8) hours per day, or hours worked on weekends or statutory holidays.

Contractor shall be reimbursed for actual time worked by Personnel on Approved Change Work as supported by weekly time reports outlining number of hours worked in the week and the activities performed. Weekly time reports shall be submitted for Company Approval on the day following the week being reported. Approved time reports shall be included with invoices as Billing Information.

Table 10

Item	Description	UOM	Rate
9.1.1	Junior Engineer	Hour	
9.1.2	Intermediate Engineer	Hour	
9.1.3	Senior Engineer	Hour	
9.1.4	Engineering Manager / Project Manager	Hour	
9.1.5	Drafting / Autocad	Hour	
9.1.6	GIS Technician	Hour	
9.1.7	Other - Proponent to Specify		

## 9.2 Subcontracted Engineering Services

Contractor shall be reimbursed for Approved subcontracted landfall engineering services on a documented cost plus percent basis. Subcontractors will be required to document their time in accordance with the requirements set forth in 9.1.

## 9.3 Landfall Execution

At the sole discretion of the Company, Contractor shall select through a competitive bidding process and manage as a subcontracted service the services required to execute cable landfall in accordance with the Approved landfall design. In order to limit the Proponent's cost risk on this item the Company will reimburse Contractor, at cost, for the Subcontractor costs associated with landfall execution and will reimburse Contractor in a lump sum amount for the selection and management of the landfall Subcontractor(s). The lump sum amount is intended to include all costs associated with the selection and management of the landfall Subcontractor(s). Contractor shall include equivalent requirements to those contained in this Agreement for Contractor's Spread, including accommodations, meals and office space for Company Personnel as well as other relevant requirement's contained in this Agreement.

Contractor shall be reimbursed for the landfall execution Subcontractor costs with no markup or disbursement.

Contractor shall be reimbursed in the lump sum amount contained in Table 11, in accordance with the Milestones contained in Section 4.0 of this Exhibit, for all aspects of selection and management of the landfall Subcontractor(s). The lump sum amount included in Table 11 shall include all costs, without limitation, associated with the procurement and management of the landfall Subcontractor.



Table 11

Item	Description	UOM	Amount
9.3	Fee for management of landfall Subcontractor	Lump Sum	

## 10.0 FIBRE OPTIC CABLE SUPPLY AND INSTALLATION

At the Company's sole option, Contractor shall be compensated at the amounts set out in Table 12 below, for the referenced components of the fibre optic cable supply and installation, in accordance with the specified sections of the Exhibit 1 – Scope of Work. Delivery of materials shall be in accordance with the incoterms stated herein.

The amounts represent all costs, without limitation, associated with the fibre optic cable supply and installation.

For the sake of clarity, these rates apply only if the fibre optic cable is supplied and installed in conjunction with the submarine HVDC cable. These rates are intended to be used as an add on to submarine HVDC cable supply and installation amounts in Table 1.

Table 12

Item No:	Description	UOM	Amount
10.1	Fibre Optic Cable Supply	lump sum	
10.2	Fibre Optic Cable Installation & Protection		
10.2.1	Mobilization	lump sum	
10.2.2	Installation & Protection	lump sum	
10.2.3	De-mobilization	lump sum	
10.2.4	Documentation	lump sum	

### 10.1 Fibre Optic Cable Supply

Contractor shall supply fibre optic cable and associated equipment ("fibre optic cable") as specified in Exhibit 1 of the Agreement. The lump sum Price shall be inclusive of any and all costs, without limitation, associated with design, manufacture, testing,

preservation, storage, transport and delivery of the fibre optic cable. Fibre optic cable shall be delivered to the installation Worksite in eastern Canada in accordance with incoterms Delivered Duty Paid (DDP). Supply shall be deemed to be complete upon delivery of fibre optic cable to the Worksite.

## **10.2 Fibre Optic Cable Installation & Protection**

### **10.2.1 Mobilization**

The lump sum amount for mobilization includes all vessel and equipment preparations, including but not limited to; the engineering required to perform the Work; developing all necessary procedures; equipment and vessel modifications and upgrading; harbour and sea trials of equipment and vessel; testing of equipment and vessel; transport of Contractor's Spread to the Worksite; establishment of project offices (as applicable); project management and administration of mobilization activities, including without limitation, engineering, planning, quality assurance, quality control, port and harbour dues, logistical support (including crew changes, accommodations and messing for Company Representatives, reporting, weather forecasting), work permitting, Contractor Spread Taxes and duties; the preparation of all documentation required by Applicable Laws for operation of the vessel in Canadian waters; preparation of operating manuals and project procedures for Company review covering the mobilization; procurement of all consumables and any additional equipment required for performance of the Work and set up of all equipment and all other activities necessary to commence the Work. Mobilization shall be deemed complete when Contractor's Spread is at the installation Worksite, ready to perform Work in accordance with the requirements of this Agreement.

### **10.2.2 Installation & Protection**

The lump sum amount for fibre optic cable installation includes any and all costs associated with the installation and protection of fibre optic cables as specified in the Agreement including, without limitation, Contractor's Items, project management and administration, port and harbour dues, Taxes and duties, Subcontractors, logistical support (including crew changes, accommodations and messing for Company Representatives, reporting, weather forecasting), procurement of all consumables and any additional equipment required for performance of the Work. Installation shall be deemed to begin upon completion of mobilization. Installation shall be deemed to be complete upon Company Approval of an installation Completion Certificate.

### 10.2.3 Demobilization

The lump sum amount for demobilization includes any and all costs, without limitation, associated with all activities required to return, and involved in returning, Contractor's Items and Contractor Personnel from the Worksite and/or project offices to Contractor's chosen location and project management and administration of these activities. Demobilization may begin upon Company acceptance of pre-commissioned fibre optic cables and Company acceptance of Contractor demobilization.

### 10.2.4 Documentation

The lump sum amount for documentation includes all documentation deliverables as detailed in Exhibit 7 – Deliverables List or elsewhere in the Agreement. Final documentation will be considered complete upon Approval of all documentation by Company.

### 10.3 Spares Supply

Contractor shall supply spares as listed in Table 13 and as specified in the Agreement. The lump sum amount as specified in Table 13 shall be inclusive of any and all costs, without limitation, associated with design, manufacture, testing, preservation, storage, transport and delivery of the spares. Spares shall be delivered to a site in eastern Canada to be specified by Company in accordance with incoterms Delivered Duty Paid (DDP) plus offloading on the dock. For clarity in addition to DDP requirements, Contractor will be required to offload spares onto the dock. Supply shall be deemed to be complete upon delivery of materials and the submittal of final documentation to Company.

Table 13

Item	Description	UOM	Quantity
10.3.1	Proponent to provide suggested spares list		

**EXHIBIT 3**

**SUBCONTRACTORS**

With the exception of the below listed Subcontractors and the associated portion of the Work described herein, Contractor shall not Subcontract any portion of the Work or reallocate Subcontracted portions of the Work to other Subcontractors without the prior written Approval of the Company.

<b>Subcontractor Name</b>	<b>Subcontractor Contact Info :</b>	<b>Description of work to be Subcontracted</b>

**EXHIBIT 4**

**COORDINATION PROCEDURES**

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## **1.0 INTRODUCTION**

This Exhibit 4 – Coordination Procedures is intended to assist Contractor and Company in the administration and management of the Agreement.

## **2.0 COMPANY'S ORGANIZATION**

### **2.1 Project Manager**

The Project Manager has the responsibility of managing the Agreement, including, but not limited to, Approval of Changes, amendment of the Agreement and issuance and receiving of Notices.

The Project Manager may delegate any of his or her responsibilities to any nominated deputy. Notice of delegation shall be provided to Contractor Representative in writing.

The person appointed as Project Manager is:

Name: Gerry Brennan, P. Eng.  
Position: Project Manager  
Address: 9 Austin Street, St. John's,  
NL, A1B 4C1  
  
Telephone: (709) 722-2321  
Facsimile: (709) 722-2083  
E-mail: gerry.brennan@emera.com

### **2.2 Company Representative**

The Company's Representative has the responsibility for dealing with the Contractor on a day to day basis receiving and issuing any instructions; decisions, Change Requests and acknowledgements under this Agreement shall be as specified below.

Company Representative shall have the responsibility for administering, monitoring, reviewing and coordinating all aspects of the Work.

Company Representative may delegate any of his or her responsibilities to any nominated deputy. Notice of delegation shall be provided to Contractor Representative in writing.

Company Representative does not have the Authority to Change the Work, amend the Agreement or in any way modify the Contractor's obligations.

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The person appointed as Company Representative is:

Name: Don Berringer, P. Eng.  
Position: Senior Technical Specialist  
Address: 9 Austin Street, St. John's, NL, A1B 4C1

Telephone: (709) 722-2981  
Facsimile: (709) 722-2083  
E-mail: [don.berringer@emera.com](mailto:don.berringer@emera.com)

Contracts Coordinator

Copies of all documentation referenced above are to be forwarded to:

Name: Allan Fraser  
Position: Senior Manager Procurement  
Address: 9 Austin Street, St. John's, NL, A1B 4C1  
Telephone: (902) 483-7159  
Facsimile: (902) 428-4197  
E-mail: [allan.fraser@emera.com](mailto:allan.fraser@emera.com)

### **3.0 CONTRACTOR'S ORGANIZATION**

#### **3.1 Contractor's Representatives**

Contractor shall appoint a full time Project Manager, as "Contractor's Representative" for the Work, who shall have full authority to receive instructions and administer the Agreement for and on behalf of Contractor. The Person appointed is:

Name:  
Position:  
Address

Telephone:  
Facsimile:  
E-mail:

The Contractor's Representative shall have the responsibility for receiving, acknowledging, countersigning and returning any instructions, decisions, Notices, authorizations and acknowledgements to Contractor under this Agreement. The role shall also be responsible for administering, monitoring, reviewing and coordinating all aspects of the Work on behalf of Contractor.

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Contractor's Representative may delegate any of his or her responsibilities to any nominated deputy upon prior Notice to Company's Representative. Notifications, information, authorizations, acknowledgements and decisions from any such nominated deputy shall be as if from Contractor's Representative.

Contractor's Representative shall have the authority to commit Contractor to any course of action within the rights and obligations of Contractor under the provisions of the Agreement and shall notify Company of all information and decisions of Contractor under the provisions of the Agreement. All notifications, information and decisions from Contractor's Representative shall be as if from Contractor and shall commit Contractor.

During the period in which Work is being performed Contractor's Representative or nominated deputy shall be readily available for discharging their responsibilities in accordance with the Agreement.

### **3.2 Key Personnel**

Contractor shall submit for Company Approval organization charts for the management, control and execution of the Work. Organization charts shall at a minimum outline the position description, the incumbent in each position and identification of key Personnel. Contractor shall maintain up-to-date organization charts, which shall be submitted to Company in the event of changes.

Key Personnel are as listed below;

- Project Manager
- Engineering Manager
- Installation Manager
- Production Manager
- Contractor Representative
- Quality Manager
- HSE Manager
- Project Controls Manager (Scheduling/Reporting)

Key Personnel shall be committed to continue through the Agreement term in order to maintain continuity.

The appointment, transfer and replacement of key Personnel shall be subject to Company's prior Approval. Key Personnel shall be assigned on a full time basis to support this Agreement, unless otherwise Approved by Company.

## **4.0 MEETINGS BETWEEN COMPANY AND CONTRACTOR**

### **4.1 Agenda**

The agenda items for any meeting will be issued to the Parties no less than two (2) Business Days prior to a meeting. Both Company and Contractor shall ensure, in accordance with their respective responsibilities that reports, reproducible documentation and forward planning information relating to agenda items are issued in sufficient time to allow adequate preparatory study and evaluation. In the event that such information requires more than two (2) Business Days to allow adequate preparatory study and evaluation, the item will not become an agenda item until subsequent to the time required by the Party for adequate preparatory study and evaluation unless agreed by Parties.

The meeting will address only the items covered by the agenda and any other minor topics relevant to the Parties and subject concerned.

In those instances where matters of urgency need to be addressed, Company and Contractor will make every effort to address such items at the earliest opportunity.

### **4.2 Status and Progress Meetings**

Company shall hold regular meetings with Contractor to plan, review and evaluate the progress of the Work and other items relevant to the Work and Worksites. A schedule for status and progress meetings shall be submitted for Company Approval. Contractor will require the attendance of any Subcontractors requested by Company.

### **4.3 Review Meetings**

Company shall schedule and hold monthly review meetings with Contractor to be attended by Company Representative and other Company Personnel, as deemed appropriate by Company or if requested by Contractor. Contractor will require the attendance of any Subcontractor/contractor requested by Company. The primary purpose of this meeting shall be to review the Monthly Report. Company Representative will advise Contractor, in advance of the meeting, of any other business to be addressed and the actions required of Contractor.

### **4.4 Other Meetings**

Company may hold other meetings with Contractor to discuss matters of technical, interface management, health, safety, environmental, quality, verification, certification,

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documentation, engineering data, cost, accounting, scheduling, construction, progress and the like, and as may be otherwise required for the Work and the Agreement. Contractor shall ensure sufficient and appropriate qualified Personnel are available to attend.

#### **4.5 Minutes of Meeting**

It shall be the responsibility of Contractor to record minutes of all meetings unless otherwise instructed by Company. Minutes should be brief, indicate with whom the responsibility for action lies, the date the action was assigned and the date required for completion of such action. Minutes should also state the results of assigned actions outlined in previous minutes, including the actual date of completion of the action. Contractor shall submit the minutes for Company Approval. The minutes shall be distributed to all attendees, the Company Representative and others designated by the Company Representative, not later than three (3) Business Days following the meeting day. Minutes shall be appended by any information provided with the agenda item and any other information tabled at the meeting.

Contractor shall maintain a separate action log which contains all actions from all meetings, the meeting reference, who is responsible for the action, the date the action was assigned, the date required for completion of such action and the actual date of completion of the action. This log shall be a controlled document, registered with document control and issued to Company on a monthly basis. Contractor will present a report format and structure for Company Approval.

### **5.0 QUALITY MANAGEMENT**

#### **5.1 Contractor's Quality Management System**

Contractor shall have an effectively implemented quality management system. Recognizing the value of the internationally Approved ISO standards, the system shall, as a minimum, be compliant with the requirements of ISO 9001:2008 - Quality Management Systems - Requirements.

Subcontractors hired by Contractor to participate in the execution of the Work must comply with Contractor's quality management plan and comply with the requirements outlined herein.

## **5.2 Workscope Quality Plan**

To ensure quality throughout the Work, including Work performed by Subcontractors and/or vendors, Contractor shall submit a Workscope Quality Plan which identifies the activities (including verification activities to be performed by Contractor) from Effective Date of the Agreement through to provision of an Approved Final Completion Certificate by Company. The Workscope Quality Plan shall be based on Contractor's existing quality management system and shall include Contractor activities, as well as activities that are performed by Subcontractors, vendors and suppliers. The Workscope Quality Plan shall comply with the requirements of ISO 10005:2005 Quality Management Systems – Guidelines for quality plans.

The Workscope Quality Plan shall be subject to review and Approval by Company. Any modifications to the Workscope Quality Plan, as the Work progresses, shall be communicated to and agreed with Company. Company will use the Workscope Quality Plan to identify which audit and verification activities Company will conduct and/or participate in with Contractor. Company or Company's Representative may elect to participate in verification activities that include but are not limited to design review(s), planning activities, final assembly/Approval tests, preservation/storage inspections, installation activities and other on-site activities.

## **5.3 Contractor's Quality Audits, Management Reviews & Surveillance of Subcontractors**

Contractor shall provide a schedule of quality audits (both internal and external) and/or quality management system reviews for the duration of the Work. Contractor shall report audit findings and observations and progress on implementing any actions that arise from the audits or management system reviews. Progress shall be reported in the quality section of the Monthly Report.

Contractor shall also identify planned verification activities to be used to assess and manage Subcontractors to ensure compliance with requirements. The anticipated verification activities shall be documented in the Workscope Quality Plan and the results of any verification activities shall be recorded in the quality section of the Monthly Report. The Monthly Report shall be tabled for review and discussion at the status/progress meetings described in Section 4.0 of Exhibit 4 - Coordination Procedures.

## **5.4 Inspection and Test Plans (ITPs)**

Contractor shall develop and submit ITPs to Company for review and Approval prior to start of the Work activity covered by the ITP. Contractor may adopt any ITP format that

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addresses the sequencing of the Work. ITPs shall, as far as practical, follow the normal sequencing of the Work and identify the activities requiring Approval, inspection and testing, participation by Company, third parties and others, in addition to those inspection activities normally undertaken by the Contractor. Contractor shall ensure that inspection and testing activities conducted during the Work are in accordance with Approved control procedures.

Wherever practical, witness and hold points will be established jointly by Company and Contractor during the development of the ITP.

Contractor will not proceed with any activity for which there is a “hold” or “witness” point and Company (or Company’s Representative) has confirmed their intent to attend unless there is prior Company Approval to proceed. Notification of “hold” and “witness” points shall be made to the Company two (2) weeks prior to the scheduled date of such activity. Contractor will reconfirm the scheduled date of such activity seventy-two (72) hours prior to commencement. Upcoming “hold” and “witness” points, for the next six (6) months, shall be detailed in the monthly progress report.

ITPs may be submitted separately for each discipline or as a combined document. ITPs are required by Contractor and Subcontractor for all phases of the Work, including but not limited to, design, manufacturing, supply, installation, hookup, and commissioning. Each ITP format shall include, but not limited to the following:

- (a) Activity and associated control procedure and/or specification reference governing the activity;
- (b) Acceptance criteria;
- (c) Responsibility for activity execution;
- (d) Objective evidence of activity execution or verifying document;
- (e) Contractor and Subcontractor participation at the inspection and test stages listed;
- (f) Company participation (to be indicated by the Company or Company’s Representative); and
- (g) Authorized inspector / verification authority.

## **5.5 Nonconformity Reporting**

For purposes of this Agreement, “Nonconformity” is defined as “non-fulfillment of a requirement”, as documented in ISO 9000:2000 Quality Management Systems – fundamentals and vocabulary.

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Contractor shall report, with respect to the Work, any Nonconformities (problem description and disposition) generated in the design, manufacture, supply, installation, hook-up and commissioning and/or service delivery process(es). Nonconformities that can affect functionality, change the final product, impact reliability, modify the product, are repetitive in nature, affect multiple items, require changes to standard procedures, produce product that does not conform with the Agreement, shall be reported upon occurrence and shall be submitted electronically using Contractor's standard Nonconformity form. Nonconformity by Subcontractors that affect the Work shall also be reported by Contractor. Mitigating action for any Nonconformity report (NCR) shall not be performed by Contractor without prior Company Approval.

Contractor shall maintain appropriate registration and control processes to record, investigate and resolve all Nonconformities raised for equipment and parts after delivery from the Contractor's manufacturing plant(s). Contractor shall immediately report significant Nonconformities to the Company.

A register of all applicable and open Nonconformity reports (NCR) shall be maintained by the Contractor. NCR's raised during the previous month shall be submitted with the monthly progress report outlining, at a minimum, NCR number, part number, serial number, product description, date open, date closed, NCR description, actionee, root cause status and action taken or to be taken, as well as formal reference to document or information used to close the NCR.

A cumulative electronic register of all NCR's raised shall be maintained by Contractor and submitted to Company in native Microsoft Office software format within three (3) Business Days of request.

## **5.6 Company Surveillance, Verification, and Quality Audit Rights**

Company shall have the right to perform surveillance and to use other verification tools to verify the performance of Contractor and of Contractor's Subcontractors to ensure conformance with relevant requirements in all areas during the execution of the Work. Contractor to provide Company Personnel and designated representatives timely and free access to all work (documents, records, Worksites, etc.) for the purpose of review and audit. Contractor shall ensure that its Subcontractors and Vendors are also required to provide this right of access.

Contractor must address and resolve to Company satisfaction, issues identified during Company reviews, audits, surveillance and inspections. Company may appoint an independent verification Authority to review and inspect the Work. The results of the independent reviews and inspections will be made available to both Parties and



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Contractor shall address and resolve any issues arising from independent reviews and inspections.

## 5.7 Quality Records

Contractor shall retain complete records that demonstrate the Work meets all the specified requirements of the Agreement and that the Contractor's quality management system is effective.

Quality records will include, without limitation:

- Inspection and test records
- Material test reports and certificates
- Preservation records
- Identification documentation
- Test equipment calibration records
- Traceability documentation (where required)
- As-built drawings
- As-built specifications
- As-built bills of material
- Internal and 3<sup>rd</sup> party audit reports and/or inspection reports
- Nonconformity reports (NCR's)
- Corrective and preventive actions
- Subcontractor performance and analysis records
- Quality management system data analysis and subsequent actions taken

All records to be compiled in a Manufacturing Record Book (MRB) at time of hand-over. Proposed index of MRB to be provided to Company for review and Approval. Quality documents will be retained in accordance with Agreement requirements.

## 5.8 Quality Management System Reporting

Contractor shall submit, on a monthly basis, a separate quality activity report, which may be included as an attachment to the monthly progress report. The report shall include the overall quality management system activity for Contractor and any identified Subcontractors. The report shall be tabled for review and discussion during the status/progress meetings described in Section 4.0 of this Exhibit 4 - Coordination Procedures. Details to include:

- (a) Progress against Workscope Quality Plan;

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- (b) Details on internal assessments or internal quality audits conducted during the month. Contractor shall include details on the area(s) audited and the number of Nonconformities /corrective actions raised;
- (c) Details on surveillance activities conducted on Subcontractors during the month. Where audits were performed, Contractor shall include details on the area(s) audited, and the number of Nonconformities /corrective actions raised;
- (d) Details on any audits conducted by others on Contractor during the month;
- (e) Summary of all Contractor Nonconformities /corrective actions raised and closed during the month;
- (f) Brief description of any nonconformities /corrective actions raised during the Work;
- (g) A copy of any management or third party reviews of the Contractor's quality management system conducted during the month subject to removal of proprietary information;
- (h) Details of changes to Personnel that may affect the delivery of services or equipment to Company; and
- (i) Details of any quality improvement initiatives undertaken during the period or opportunities for improvement.

## **5.9 Progress Meetings – Quality Management Focus**

Quality management will be a discrete topic in the progress meetings described in Section 4.0 of this Exhibit 4 - Coordination Procedures. The Workslope Quality Plan and monthly quality activity report shall be tabled for review and discussion. Appropriate Contractor and Company Personnel shall be in attendance to address issues identified or arising from the review and discussion.

## **6.0 HEALTH AND SAFETY (HS)**

### **6.1 Contractor's HS System**

Company maintains a management system that integrates safety, health of Personnel, asset integrity, security, and the quality of work with other critically important aspects of the Company's business. To ensure Work performed by the Contractor meets the expectations of the Company, Contractor shall have an effective management system that meets the Agreement requirements. Contractor will document and implement a comprehensive HS plan to meet Company's expectations as outlined in these documents. The plan will be provided to Company for review and Approval.

Contractor is responsible for maintaining a safe working environment at all times, at all Worksites whether of a temporary or permanent nature. The system in place shall cater

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to specific requirements for instruction, supervision and resources pertaining to permanent, temporary, Contractor Personnel, Company's Other Contractors or Company Personnel.

Contractor shall have an effectively implemented a comprehensive HS management system which is in compliance with the Agreement requirements.

(a) Company's Safety Requirements

Without limitation to the full implementation of the safety management system, Contractor shall:

- (i) Require all Contractor's and Subcontractors' Personnel to wear personal protective equipment (PPE) and clothing suitable for existing work in compliance with the applicable Authority standards in the area the Work is being performed. Canadian Safety Association (CSA) and Company standards shall apply to Work performed in Canada;
- (ii) Provide specific instruction to Personnel on their responsibilities for safe work during normal and emergency operations, including explanation of hazards and associated protective measures, procedures and emergency response measures;
- (iii) Ensure that all Personnel, including Subcontractors' Personnel, regardless of prior experience, demonstrates competency to the Company in his/her job. The Contractor supervisor will also observe new Personnel's work performance until Contractor is satisfied that the Personnel are competent to fill the position in a safe and effective manner;
- (iv) Instruct Personnel on (written) work procedures, safe practices, Contractor's and Company's safety rules where applicable and standards, emergency plans and duties and applicable regulations;
- (v) Conduct scheduled and impromptu safety meetings of all Personnel performing the Work, including any Subcontractors' Personnel, in which the possible hazards, problems of the job, and related safe practices are emphasized and discussed; before the work starts and at appropriate check points during the work.
- (vi) Practice good housekeeping standards;
- (vii) Provide general safety education through training, safety meetings, Company publications, and other educational media;
- (viii) Establish and support a health and safety committee in accordance with Applicable Laws;
- (ix) Provide all reasonable means to control and prevent fires and explosions, injury to Personnel and damage to equipment and property;

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- (x) Institute a permit to work system for hot and cold work, for all work involving welding, energized equipment, cutting and burning, open flame, electric tools, grinding and soldering which is conducted outside a designated safe area. Contractor also to ensure that gas bottles for cutting and burning are secured, stored, separated and capped in accordance with Applicable Laws;
- (xi) Institute a confined space entry procedure and provide training for workers involved in confined space entry;
- (xii) Institute a lock out/tag out procedure for all work on equipment, which may inadvertently operate during installation, repair or maintenance in accordance with Contractor's permit to work system;
- (xiii) Institute a pre-work inspection program prior to commencement of Work. Contractor shall inspect and perform task analysis to ascertain whether any health or safety hazards exist. Contractor will correct identified hazards before commencement of Work or will take steps to prevent Personnel exposure to the hazard. Contractor shall document this inspection and hazard analysis process and maintain a copy of the document on file;
- (xiv) Institute a program to ensure Contractor's Personnel are fully trained and currently qualified for their jobs in accordance with regulatory and industry standards and as otherwise specified in this Agreement. Records of certification and training shall be maintained for each person;
- (xv) Maintain a register of all lifting equipment. All lifting and rigging equipment shall be fully certified with suitable inspection procedures in place. All Personnel involved in lifting/rigging activities shall be suitably trained and certified. All lifting and rigging equipment must be inspected semi-annually by a certified inspection company;
- (xvi) Operate/use all pressure vessels in compliance with local safety requirements and Applicable Laws;
- (xvii) Operate all marine Contractor's Spread in compliance with Transport Canada Act and regulations;
- (xviii) Maintain a current inventory of hazardous materials and ensure compliance with Applicable Laws pertaining to their transportation, storage, usage, handling and disposal. For all Work performed maintain an onsite workplace hazardous materials data information system readily accessible to all site staff.
- (xix) Ensure compliance with current occupational exposure limits for physical, chemical, or biological agents or materials, in accordance with Applicable Laws;
- (xx) Implement and maintain a planned maintenance system for its tools, equipment, machinery and electrical systems for its Personnel;
- (xxi) Forward to Company the results of any Health & Safety (HS) visits, audits, inspections, investigations, surveys, tests or measurements, associated with the Work, conducted by an Authority, in respect of HS;

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- (xxii) Provide signage and barriers, as appropriate, to warn Personnel of hazards and indicate areas where the use of additional Personnel protective equipment is required;
- (xxiii) Provide and maintain proper barriers, safe access and egress, guards, rails and safety devices to minimize hazards during the performance of Work;
- (xxiv) Ensure all inboard and over-the-side scaffolding and work platforms are installed, tested and certified by competent/certified Personnel, in accordance with Applicable Laws, prior to use;
- (xxv) Ensure all cutting torch equipment is maintained in good working condition. Flash back arresters shall be installed at the torch end.
- (xxvi) Provide first aid equipment supplies on board its Contractor's Spread and ensure that there is an adequate number of first aid and advance first aid trained Personnel on board the Contractor's Spread, all in accordance with Applicable Laws;
- (xxvii) Provide an "Emergency Response Plan" that has been tested and an emergency response team that has exercised and practiced to maintain competency of the emergency response Personnel;
- (xxviii) Provide safety and lifesaving equipment that is in compliance with Transport Canada and other Authority requirements;
- (xxix) Perform planned HS audits and inspections of the Worksites, work practices and HS management system in accordance with the audit and inspection schedule outlined in the HS plan;
- (xxx) Conduct hazard identification and risk assessment of its operations and provide Company with a copy of the risk plan and results of each assessment, outlining measures to be taken and schedule for implementation of those measures required to address identified hazards. The risk assessment will include consideration of environmental risk;
- (xxxi) Provide safety advisor(s) who will be responsible for attending safety meetings, conducting accident investigations, providing HS support to all Personnel engaged in the Work and the implementation, maintenance and monitoring of safety guidelines and procedures. Contractor shall ensure that the safety advisor is certified (Certified Registered Safety Professional (CRSP)) or has equivalent training;
- (xxxii) Ensure (as far as reasonably practicable) that all Personnel engaged in the Work are medically fit and maintain high standards of hygiene;
- (xxxiii) Ensure that all firefighting equipment is maintained and operational in accordance with CSA standards and firefighting Personnel are well trained and competent in firefighting;
- (xxxiv) Set out a communications scheme identifying lines of reporting and method of reporting, both within the Contractor's own organization and to the Company;

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- (xxxv) Not cause, permit, or tolerate a hazardous, unsafe, unhealthy condition or activity over which it has control, to exist or be conducted in a Worksite;
- (xxxvi) Implement an accident and incident reporting system, in compliance with Company standards. Contractor shall provide immediate notification to Company of all incidents (lost time injuries, restricted work cases, medical aids, property damages, near misses). Follow up incident investigation reports shall be submitted to Company within ten (10) Business Days after the occurrence. Contractor shall also provide Company with copies of all reports or other documents filed or provided by Contractor's insurers and Authorities in connection with such accidents and incidents;
- (xxxvii) Contractor shall provide all Personnel, prior to entering the Contractor Worksite, with an orientation to the Worksite. The orientation shall include, but shall not be limited to, the following:
- Worker's rights
  - Contractor health and safety policy
  - Contractor behavior based safety program
  - Contractor environmental policy
  - Safe work practices and procedures
  - Reporting of incidents and accidents
  - Emergency response
  - Personal Protective Equipment
  - Risk Assessment
  - Hazard Identification
- (xxxviii) Submit to Company a monthly statistical safety performance report for the duration of the Agreement and shall include, without limitation
- |   |                          |
|---|--------------------------|
| • Person hours worked                       | • Equipment Damage       |
| • Lost time injuries                        | • Near miss incidents    |
| • Restricted work cases                     | • Recordable injuries    |
| • Medical aids                              | • Occupational illnesses |
| • First aids                                | • Fatalities             |
| • Behaviour based safety program statistics |                          |
| • Property damage                           |                          |

Subcontractors hired by Contractor to participate in the execution of the Work must comply with Contractor's Health and Safety Management Plan and comply with the requirements outlined herein;

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The use, possession, distribution or sale of alcohol, illegal drugs or drug-related paraphernalia, firearms, explosives, weapons or other dangerous substances or articles is not permitted in the Worksites. Contractor shall ensure that Contractor's Personnel who are engaged in the performance of the Work, are familiar with, and comply with, Contractor's drug and alcohol policy. Contractor shall submit to Company, for Company's Approval, Contractor's drug and alcohol policy which shall be in accordance with Applicable Laws. Company may, if it has reasonable cause to believe that a Contractor's Personnel is under the influence of alcohol or drugs, require such Personnel be tested for use under Contractor's own alcohol and drug policy or require Personnel to be removed from the Worksite and denied further access.

## **6.2 Progress Meetings – HS Management Focus**

HS will be a separate topic of discussion in the review meetings described in Section 4.0 of this Exhibit 4 - Coordination Procedures. A summary of HS activity for the month shall be tabled for review and discussion. Appropriate Contractor and Company Personnel shall be in attendance to address issues identified and decide on and assign any follow-up actions to get resolution.

## **6.3 Company's Verification and HS Assessment/Audit Rights**

Company shall have the right to perform surveillance to verify the performance of Contractor and Contractor's Subcontractors to ensure compliance with relevant requirements in all areas during the execution of the Work. HS assessments/audits may also be performed by Company during the course of the Work.

## **6.4 Company Safety Initiatives**

Contractor may be requested to participate in Company initiated safety programs, i.e. safety leadership, in which Company would require participation of various levels of the Company's organization this may involve other contractor's performing work on the project.

## **7.0 ENVIRONMENTAL AND REGULATORY COMPLIANCE**

To ensure work performed by the Contractor meets the expectations of the Company, Contractor shall have an effective environmental management system that meets the requirements of ISO 14001 and the Agreement requirements. Contractor will document, implement and adhere to a comprehensive environmental protection plan (EPP) to meet Company's expectations and regulatory requirements. The EPP will be provided to Company for review and acceptance.

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Contractor is responsible for maintaining an environmentally sound working environment at all times, at all Worksites whether of a temporary or permanent nature. The contractor is responsible to adhere to environmental requirements, including housekeeping at all times, at all Worksites whether of a temporary or permanent nature. Applicable environmental requirements shall include but are not limited to applicable federal and provincial requirements, conditions of environmental assessment release and conditions associated with permitting. The system in place shall cater to specific requirements for instruction, supervision and resources pertaining to permanent, temporary, Contractor Personnel, Company's Other Contractors or Company Personnel. Contractor shall have an acceptable and effectively implemented environmental management system which meets the expectations of the Company.

### **7.1 Company's Regulatory and Environmental Compliance Requirements**

Without limitation to the full implementation of the environmental management system and the EPP, Contractor shall:

- (a) Provide specific instruction to Personnel on their roles and responsibilities for environmental and regulatory compliance during normal and emergency operations;
- (b) Instruct Personnel on (written) work procedures, environmental mitigations measures, standards, contingency plans and duties and applicable regulations;
- (c) Conduct scheduled environmental awareness meetings of all Personnel performing the Work, including any Subcontractors' Personnel, in which the possible environmental impacts and related mitigation measures are emphasized and discussed;
- (d) Provide general environmental awareness education through training, meetings, Company publications, and other educational media;
- (e) Maintain a current inventory of hazardous materials and develop and implement a management program to ensure compliance with Applicable Laws and Agreement requirements pertaining to their transportation, storage, use handling and disposal;
- (f) Ensure that all waste material (including but not limited to wood, paper, metals, plastics, hazardous and petroleum liquids and hazardous wastes) are managed appropriately and adhere to regional waste management regulations. Waste



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generated on the Contractor's Spread shall be brought to shore for proper disposal by a certified waste disposal company;

- (g) Provide emergency contingency plans for Company Approval (including a spill response plan) that is suitable to the operation. The Contractor will ensure all staff are trained and are competent to respond;
- (h) Provide appropriate spill response supplies on board the Contractor's Spread;
- (i) Perform planned environmental compliance audits and inspections of the Worksites, work practices and environmental management system in accordance with the audit and inspection schedule outlined in the environmental protection plan;
- (j) Forward to Company the results of any environmental audits associated with the Work, conducted by an Authority, in respect to environmental and regulatory compliance;
- (k) Provide for Company Approval a communications scheme for environmental and regulatory compliance, non-conformance reporting and fuel and hazardous material reporting, identifying lines of reporting and method of reporting, both within the Contractor's own organization and to the Company;
- (l) Not cause, permit, or tolerate an environmentally unsound condition or activity over which it has control, to exist or be conducted at a Worksite;
- (m) Implement an environmental compliance reporting system, in compliance with Company standards. Contractor shall provide notification to Company within twelve (12) hours of all incidents and immediate notification in the event of a hazardous material or fuel spill or uncontrolled release. Follow up incident investigation reports shall be submitted to Company within ten (10) Business Days after the occurrence. Contractor shall also provide Company with copies of all reports or other documents filed or provided by Contractor's insurers and regulatory authorities in connection with such accidents and incidents;
- (n) Submit to Company a monthly statistical environmental performance report for the duration of the Agreement; and
- (o) Maintain documentation to verify compliance with the above requirements.

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Subcontractors hired by Contractor to participate in the execution of the Work must comply with Contractor's environment management plan and comply with the requirements outlined herein.

## 7.2 Progress Meetings – Environmental Management Focus

Environmental management will be a separate topic of discussion in the review meetings described in Section 4.0 of this Exhibit 4 - Coordination Procedures. A summary of environmental and regulatory compliance activity for the month shall be tabled for review and discussion. Appropriate Contractor, Subcontractor and Company Personnel shall be in attendance to address issues identified and decide on and assign any follow-up actions to get resolution. Meeting minutes are to be documented. Action items are to be documented with responsibilities and completion dates assigned.

## 7.3 Company's Verification and Environmental Assessment/Audit Rights

Company shall have the right to perform surveillance audits to verify the performance of Contractor and Contractor's Subcontractors to ensure compliance with relevant requirements in all areas during the execution of the Work. Environmental assessments/audits may also be performed by Company during the course of the Work if environmental assessments/audits indicate that project specific EPPs and/or regulatory requirements are not being adhered to the satisfaction of the Company.

## 8.0 PLANNING, SCHEDULING AND PROGRESS REPORTING

This section sets forth Company's minimum requirements for Contractor's planning, scheduling, measurement and reporting of physical progress, and schedule control activities for the Work.

### 8.1 Definitions

- (a) **Earned Value Management**: A measure of the value of Work performed. Earned value uses current budgets and progress-to-date to show whether the incurred values are on budget and/or whether the tasks are ahead or behind the Baseline plan. A method for measuring Work productivity and performance; it compares the effort of Work that was actually expended with what was physically complete.
- (b) **Control Schedule (CS)**: The Control Schedule forms the basis to measure progress in which cost, schedule, scope and other performance criteria are formally compared against the agreed baseline for assessment of progress and performance. The Control Schedule forms the benchmark for comparison and identification of cost and

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- schedule deviations. The Control Schedule shall represent the total Work execution (Milestones, Key Dates, design, procurement, regulatory, fabrication/manufacturing, transportation, installation, construction, and completions) covering the entire duration of the Work, and include roll-up details of all Contractors' schedules. The Control Schedule is to be a schedule network, which is calculated using the Critical path Network.
- (c) **Milestone**: A documented date in time, tied to the Work, which denotes an important event, such as the starting or completion of a significant event related to the Work scope, or an interface point of extreme importance. Milestones are logically linked to the Work and can only be changed by Change Order.
- (d) **Control Schedule Baseline Document (CSBD)**: a series of schedules, S-Curves, histograms, tables and narrative which together form the basis of the plan to complete the Work. The Control Schedule Baseline Document is updated and re-issued following re-baselining of the Control Schedule. The CSBD includes the Control Schedule, as well as critical and sub- or near-critical path(s). The Control Schedule Baseline Document shall provide supporting documentation to the Control Schedule. It shall include all baseline assumptions regarding schedule durations, logic, installation rates, progress weighting and relevant material as deemed necessary by the Company.
- (e) **Summary Schedule (SS)**: The Summary Schedule incorporates all Work milestones and is a roll-up of schedule information from the detailed Control Schedule such as engineering, procurement, construction/fabrication, installation and completions.
- (f) **Schedule Development and Control Plan (SDCP)**: A formal document providing the approach to planning and schedule control including schedule development, schedule analysis, schedule forecasting, schedule reporting, corrective action, and the method for incorporation of change orders. The SDCP is to address the scheduling interfaces between Contractor and Company, as well as Contractor and Sub-Contractors. In particular, the plan shall provide a detailed description of Contractor's progress measurement system. The progress measurement plan should describe in detail how Contractor will measure, verify, and report physical progress of each major activity within Contractor's scope (e.g., engineering, procurement, fabrication / manufacturing, permitting, transportation, construction, installation and completions).

## 8.2 Contractor Duties

With respect to planning, scheduling and schedule control of the Work, Contractor shall:

- (a) Prepare, implement and maintain a Schedule Development and Control Plan for the Work using methods and procedures that are recognized as industry best practices;
- (b) Impose the same Control Schedule and progress measurement requirements in the Agreement, as a minimum, on Sub-Contractors, Suppliers, agencies, and other service providers;
- (c) Analyze, forecast, and report the progress of the Work using industry recognized earned value management practices as compared to current Work plans and overall schedule, summarizing the results of the schedule analysis in the monthly progress report, which shall include an Approved Milestone listing with target dates and current forecast dates;
- (d) Contractor will be responsible for developing recovery plans and their attendant schedules if slippage is apparent or required by the Company. These will be reviewed with Company, implemented upon Company's Approval, monitored as to whether recovery plans are successful, and adjustments made as needed to keep the Work on schedule;
- (e) Incorporate the results of progress measurement and related status information into schedule forecasts, monthly progress reports, and other reports as required under this Agreement;
- (f) Provide access to all details of schedule preparation, progress measurement, and schedule updates when requested by Company;
- (g) Make changes in the schedule preparation, progress measurement, and schedule control procedures at Company's request;
- (h) The Contractor will utilize its own system for progress measurement to be approved by Company. Actual progress shall be based on physical Work completed measured against the current Approved Work;
- (i) Contractor shall provide Company with the Control Schedule in hard copy and electronic form. The native electronic file shall include all information necessary to duplicate Contractor's schedule, progress measurement analysis, and

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resource requirements. In addition to the electronic file, the schedule software settings, calendar definitions, and application generated scheduling report shall be included; and

- (j) Contractor shall take Company Approved corrective action whenever there is an identified trend which indicates that a Milestone will not be achieved, or which indicates an opportunity to shorten the overall schedule or counteract potential schedule slippages.

### 8.3 Schedule Development and Control Plan (SDCP)

Contractor's Schedule Development and Control Plan shall cover all essential areas of schedule development and control, including schedule development, schedule analysis, schedule forecasting, schedule reporting, and corrective action. In particular, the plan shall provide a detailed description of Contractor's progress measurement system.

Contractor's Schedule Development and Control Plan should include, as a minimum, information on the following items.

- (a) How Contractor's detailed schedule and current work plans will be developed, reviewed and updated.
- (b) The methodology that Contractor will use to analyze and forecast the progress of the Work relative to current schedules.
- (c) How interface management will be addressed. Interface management includes all key internal interfaces within the work scope of the Contractor as well as all key interfaces between the Contractor and Other Contractors, Company, or any other third party. The plan will define how interfaces are identified, stewarded, and their status reported.
- (d) How interfaces, outside of Contractor's control, could impact on the Control Schedule.
- (e) The number, types, uses, frequency of updates (and responsibility for updates), and level of detail for each of the various schedules the Contractor intends to use to control the execution of the Work.
- (f) Methods for analyzing critical path and conducting float analysis.

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- (g) Procedure for re-baselining the Control Schedule (subject to Company Approval).
- (h) Coding system for schedules.
- (i) The methods that will be used to measure physical progress of each of the various activities or groups of activities in engineering, procurement logistics, fabrication, manufacturing, construction, completions, and installation. Methods for engineering shall specifically address use of CADD (both 2D and 3D). CTR's (cost, time and resource) tables shall be used to indicate the level of effort required for all Contractor deliverables.
- (j) Procedures within Contractor's organization for review and verification of progress measurement information prepared at each Site.
- (k) The methods to control over-progressing of activities – verification all activities reported as 100% complete are actually complete.
- (l) The method for recognizing the impact of rework on apparent progress, during engineering, procurement, and fabrication (construction), and the method for specifically progressing and tracking the Work.
- (m) The methods and procedures for incorporating the effects of Change Orders on the assessment of progress.
- (n) The method for weighting and combining individual and overall progress measurements to arrive at the craft / discipline and overall progress assessments for engineering, procurement, fabrication, installation, completions and other major activities related to the Work. Budgeted work-hours are the preferred methods of weighting, where feasible. Progress weightings shall be subject to Company's review and agreement and once agreed shall not be changed without Company's prior written Approval.

#### **8.4 Control Schedule Baseline Document (CSBD)**

- (a) The CSBD is a series of schedules, S-Curves, histograms, tables and narrative which together form the basis of the plan to complete the Work. The Control Schedule Baseline Document is updated and re-issued following approved rebaselining of the Control Schedule. The CSBD

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includes the Control Schedule. The CSBD, once submitted and approved by the Company, cannot be revised unless approved by the Company.

- (b) The Control Schedule Baseline Document shall provide supporting documentation to the Control Schedule. It shall include all baseline assumptions regarding schedule durations, logic, installation rates, progress weighting and relevant material as deemed necessary by the Company. The Control Schedule Baseline Document submitted for review shall include printed (hardcopy and .pdf), as well as native electronic files. Included with the submittal shall be all of the information required to reproduce the submittal, including, but not limited to the scheduling software settings, the working calendars, the application time conversion factors, and precedence and scheduling output reports from the scheduling software.
- (c) The Control Schedule Baseline Document shall be organized into an overall summary section and a detailed section for each major section of the work (Engineering, Procurement, Manufacturing/Fabrication, Submarine Cable Installation, testing, and handover). Each section shall be organized as indicated below:
  - 1. Issues/ Assumption  
Key assumptions underpinning the execution methodology and control schedule, as well as any major issues that may impact upon the works. This section will also include the basis for any planned changes to the Control Schedule.
  - 2. Summary Schedule
  - 3. Progress Curve and Table
  - 4. Critical / Sub-Critical Path
  - 5. Detail Schedule for this major Component section

## 8.5 Control Schedule (CS)

- (a) A detailed Control Schedule for the Work will be prepared by the Contractor and developed in accordance with Company's Work Breakdown Structure and Code of Accounts for the Work. The Control Schedule for the Work must be aligned with the detailed estimate for the Work. The detailed schedule for the Work shall encompass Contractor's entire scope of Work as defined in the Agreement. It will contain sufficient detail for full understanding of how all activities contribute to the overall cost and Milestone Schedule.

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- (b) The Control Schedule should show activities that provide sufficient detail in all areas of the Work execution (Milestones, Key Dates, design, procurement, regulatory, fabrication/manufacturing, transportation, installation, construction, and Completions) to enable monitoring and control of those execution areas impacted by key issues. Schedule forecasts should give a complete and accurate picture of the current status of the Work, including Approved and pending Changes, and also including the consequences of overrun and under run work-hours, productivity, and durations irrespective of whether Contractor or Company is responsible.
- (c) The Control Schedule should be prepared and maintained based on input and requirements from Contractor's user groups such as project management, planning and controls, engineering, procurement, work package preparation, fabrication, transportation & logistics, construction, completions, Contractors, as well as Company and Company's Other Contractors as appropriate.

## 8.6 General Scheduling and Progress Requirements

Contractor's planning, scheduling and schedule control activities for the Work shall include the following requirements, at a minimum:

- (a) Include a time-scaled critical path method (CPM) logic network that shall set forth the order and estimated times by which planned activities are to be completed. This network shall identify the critical and subcritical paths (a sub-critical path is defined as any series of activities whose completion is within one week of the critical path completion). The logic network shall clearly indicate all restraints and interrelationships and shall incorporate the Milestone Schedule.
- (b) Identify and provide a description of those activities associated with material sources, Suppliers, Sub-Contractors, and offsite fabrication. Interfaces with external parties shall be incorporated into the Control Schedule.
- (c) All schedule and progress information (CS, SS, tables, histograms, s-curves, document register, procurement plan, manufacturing schedule and support documentation) shall be issued on a monthly basis. Company may request, and Contractor shall provide, any additional related information, on an ad hoc basis;



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- (d) Progress measurements shall be made in such a manner that the physical progress of the Work can be related easily to the Control Schedule activities. Progress shall be evaluated on discrete, identifiable deliverables for each major Work activity weighted by budgeted work-hours or other methods to determine a total percent for each activity. Physical progress measurement relates to the assessment of the proportion of actual Work accomplished towards completion of given components of the Work. It is not a comparison of spent versus budgeted work-hours;
- (e) Assess progress for all progress earning activities required for each Work component (regardless of source). As additional progress earning scope is identified, it is added to the base level of Work via the Agreement's change management process, to be accomplished and progress measured and reported like all other Contractor's Services.
- (f) Indicate the schedule calendars used. This shall include daily work hours, work week, shift schedule, scheduled facility shutdowns (if any), and holidays used to develop the schedule. Any planned non-work periods (e.g. adverse weather or environmental conditions) shall be clearly indicated and a narrative shall be supplied indicating the period of non-work and the rationale for the non-work period;
- (g) Show status of interfaces within the components of the Work (i.e. engineering, procurement, manufacturing/fabrication, construction, completions etc.) and between the Subcontractors and Suppliers;
- (h) Exclude from physical progress measurements home office and field support functions such as project management, coordination, and controls, engineering office follow-up during construction, construction/fabrication management and supervision, warehousing and material handling, clean-up;
- (i) Ensure that no activity for which physical progress can be earned be given full progress credit until rework for that activity has been completed (or deemed to be completed) and verification of quality has been accomplished. The activity shall be held at 90% complete until a signoff has been received from the quality department;
- (j) Produce and maintain a schedule network that is logically-linked, with a minimal number of constraints utilized. Where constraints are required,

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the fewest possible constraints necessary to meet the required objective shall be used. The reason for the constraint shall be noted in the notebook file for that activity;

- (k) The use of activity lags is discouraged. Where the use of lags is considered, Contractor shall consider if the use of an activity to represent the lag is a reasonable representation of the condition being modeled;
- (l) The scheduling option that retains the current logic (“retained logic”) of activities started out of sequence is to be used. Where necessary, the logic for those activities for which the relationship is no longer applicable shall be manually changed;
- (m) Schedule time forecasting shall not be based upon the schedule percent complete. The Scheduling Control Software function for linking Remaining Duration and Schedule percent Complete shall be disabled.
- (n) Control Schedule will be structured to provide activity code fields for exclusive Company utilization for summarization and reporting purposes. The Company will provide the applicable coding to the contractor for inclusion within these Company code fields. Contractor will populate and maintain these code fields for all schedule activities; and
- (o) Company shall have free and direct access to all information input to and generated under Contractor’s progress and performance management systems, including, but not limited to, planning, scheduling, progress measurement, person-hours, manpower, and productivity data.

## 8.7 Reporting

Contractor shall meet all deadlines in generating reports as required for performance of the Work or as specified in the Agreement.

Contractor shall submit, for review and Company Approval, sample formats of all reports, used for report generation. All reports shall be provided in hardcopy and in electronic native Microsoft Office software format or other formats, as agreed by Company. Any changes in the format of reports either proposed by Contractor and Approved by Company, or suggested by the Company Representative, acting reasonably, shall be implemented by Contractor within a period of one (1) month of Approval of same. Any changes, anticipated by Contractor to take more than one (1)

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month, shall be promptly brought to the attention of the Company Representative for further consideration.

In addition to the reporting identified in this Exhibit 4 - Coordination Procedures, Contractor will provide any other reporting and information that Company may require.

(a) Bi-Weekly Progress Report

Contractor shall issue a Bi-Weekly Progress report on the day before the bi-weekly meeting. It shall include a brief summary report by discipline covering the previous two (2) weeks, which shall include without limitation:

- Significant items planned for the following weeks
- HSEQ reporting and quality management
- Highlights and concerns including any required and implemented corrective action in the following main areas:
  - engineering
  - procurement
  - manufacturing / fabrication
  - construction/installation
  - completions
- Achievement status of major system components
- Interface activities
- Change Orders and Change Request status

The Bi-weekly report shall be tabled for review at the Bi-Weekly progress meeting.

(b) Monthly Progress Report

Contractor shall provide a copy (in both portable document format and native format) of the report by email and shall submit the report not later than one (1) week after data cut off point for each reporting period. Monthly cut off dates shall be the last Sunday of each month.

Contractor shall submit a format of the Monthly Report for Company Approval. The Monthly Report shall include as a minimum the following items:

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- Narratives per major work element with major achievements and any deviations from schedule in time/progress, reasons for delays and deviations with recommended actions and potential effects (including schedule reference) and safety, accident and injury report with lost time per accident.
- Quality activity report
- Interface activity, close-out and status report
- Mechanical completion index of completed Work
- Milestone completion index
- HSE report (including safety performance report)
- Cost report including invoice and payment status
- Certification report
- Progress, cost and schedule S-curves
- Upcoming “hold” and “witness” points for the next six (6) months
- A listing and analysis of all significant time critical activities
- Identification of any areas of concern and proposed recommendations.
- Index of Company provided material
- Cash forecast
- Change Order status
- Regional Benefits
- Register of communications with Authorities
- Status of Permits and Approvals under responsibility of the Contractor

(c) Daily Installation Progress Report

Contractor shall, during transportation and installation activities, for each Contractor’s Spread used for the Work as part of Contractor’s Spread, prepare daily progress reporting to reflect Contractor’s progress. The daily progress report shall include as a minimum:

- Vessel name and location
- Spread makeup i.e. all vessels in the field and location of other vessels
- Contractor’s HSEQ statistics for the Work
- Weather statistics
- Record of incidents occurred
- Summary and status of activities performed
- Personnel on board for the reporting period including changes during the period
- Work completed during the reporting period, including progress against planned activities for the period
- Forecast changes to the overall schedule and Execution Plan

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- Work planned for the upcoming period
- Durations expended against discrete work elements including waiting on weather
- Issues / challenges or other noteworthy concerns for the period

The daily progress reports shall be signed by Contractor and Company Personnel to document the validity of the record and shall be submitted to Company Representative.

(d) Reports and Schedules

The reports, considered essential to overall planning and schedule control, shall be updated and issued monthly. These reports shall include: Control Schedule, Summary Schedule, Tables, Histograms, S-curves, Document Register, Procurement Plan, Manufacturing schedule and support documentation.

## **9.0 COST CONTROL AND REPORTING**

### **9.1 Cost Control of Accounts**

Company shall provide cost control accounts to Contractor within 30 days of the Agreement Effective Date. The cost control accounts will be cross referenced to the compensation elements defined in Exhibit 2 – Compensation.

### **9.2 Reimbursable Costs**

Any Work carried out on a reimbursable basis must have prior Company Approval.

### **9.3 Cost Report**

Contractor shall prepare a cost report to be included as a section of the Monthly Progress Report. Reporting will be consistent with the cost control accounts and payment elements contained in Exhibit 2 – Compensation. Contractor shall submit a sample cost report for Company Approval. In general, the cost report shall address the following:

- Original and current contract values
- Change Order values (Approved & forecast)
- Forecast final cost (previous period, current period and monthly variance)
- Incurred cost to date (value of Work completed)

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- Reimbursable cost status, if applicable (Approved, incurred and forecast costs)
- Change Order status (table of all Change Requests under preparation and issued, with their status)
- Invoice record (table of all invoices and their status)

## **10.0 CHANGE ORDERS**

### **10.1 Introduction**

- (a) This Section 10.0 sets out the detailed requirements applicable to Changes. Changes will be identified by written Change Orders Approved by Company.
- (b) The cost and schedule impacts of Changes are of special concern to Company. Therefore, Contractor shall specify its assessment of cost and schedule impacts in each Change Request or proposal presented in accordance with Section 10.2. Contractor shall submit with each Change Request or proposal full details of any assessed cost and/or schedule impact, as described under Sections 10.4 and 10.5.
- (c) If Company and Contractor fail to agree on the cost impact and/ or schedule impact of a Change, Company, at its discretion, may issue a Change Order instructing Contractor to proceed with the Change Work. Contractor shall initiate, carry out and complete such Change Work in a timely manner and with all due diligence. Neither Company's issuance of such a Change Order, nor Contractor's performance of Change Work pursuant to such Change Order shall prejudice the Party's respective position regarding the appropriate compensation and/or schedule impact of such Change Work.
- (d) When Company has instructed Contractor in writing to proceed with Change Work in accordance with this provision, Contractor shall prepare daily time sheets covering said Change Work and submit them within twenty-four (24) hours after such Change Work has been performed, for Company's signature. Contractor shall also present details of its assessment of any effect of the Change Work on the Control Schedule. Company's signature of Contractor-presented time sheets shall not commit Company to any particular payment in respect of the Change, but shall serve as a record of events in the eventual resolution of any difference of opinion between Company and Contractor regarding the cost and/ or schedule impacts of a Change.
- (e) Company shall be entitled to an equitable reduction in the Agreement Price and/ or an equitable adjustment of the Control Schedule in respect of any deviation authorized by Company from particular requirements set out in Exhibit 1 – Scope

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of Work or elsewhere in this Agreement. Contractor must seek and obtain Company's Approval, in accordance with the relevant procedures developed by Contractor and Approved by Company, before implementing any such deviation proposed by Contractor.

## 10.2 Company Requested Changes

- (a) Except as provided in Article 26.3 of the Agreement and Section 10.3 of this Exhibit 4 – Coordination Procedures, Changes will be initiated only through a "Change Request" form, Attachment 4-1, prepared by Company and submitted to Contractor.
- (b) Upon receipt of the Change Request form, Contractor shall prepare and sign Change Order proposal on the Change Request form provided which includes a detailed estimate and submit these within five (5) Business Days to Company for further processing. Contractor may use computer-generated forms in lieu of Attachment 4-1 provided that the same format and wording are used and the same data are provided. The Change Order proposal shall include:
  - (i) the detailed execution methodology for the proposed Change;
  - (ii) as applicable a detailed estimate or lump sum price for the proposed Change;
  - (iii) if applicable, details of effects on the execution plan or any of the associated quality, safety, or environmental protection plans;
  - (iv) a detailed schedule for the execution of the Change and the impact on the Control Schedule.
- (c) If Contractor cannot present the forms to Company within said five (5) Business Day period, Contractor shall promptly so notify Company, giving the reasons for the delay and advising the date the required forms shall be ready. Contractor shall not unduly delay presentation of the forms to Company, and shall provide on an expedited basis any particular information that Company may reasonably require to assess the likely impact of a Change that is under consideration.
- (d) Company shall be entitled to reject any Change Order proposal not submitted with the specified detailed substantiation of asserted pricing and schedule effects.
- (e) Company will review the Change Order proposals and supporting substantiation, submitted by Contractor and, within ten (10) Business Days, will either Approve and return a Change Order, in the form provided in Attachment 4-2, for

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Contractor execution, or reject and return the forms for resubmission or cancellation. **In no event is Change Work to be initiated by Contractor prior to receipt of an Approved Change Order and subsequent execution by Contractor and return to Company Representative or by a written instruction pursuant to Section 10.1 (c).**

### 10.3 Contractor-Identified Changes

- (a) Contractor may request a Change which it deems necessary by submitting a Change Request to Company in the form provided in Attachment 4-1. Each Change Request shall include:
  - (i) a detailed explanation of why Contractor proposes a Change has occurred together with any and all detailed supporting information required for Company to easily evaluate and assess the merits of the Change proposal. Contractor shall clearly specify the relevant provision(s) of the Agreement relative to which Contractor interprets there has been a Change;
  - (ii) as applicable a detailed estimate or lump sum price for the proposed Change;
  - (iii) if applicable, details of effects on the execution plan or any of the associated quality, safety, or environmental protection plans;
  - (iv) a detailed schedule for the execution of the Change and the impact on the Control Schedule.
- (b) Company will review the Change Request and supporting substantiation, submitted by Contractor and, within ten (10) Business Days, will either Approve and return a Change Order for Contractor execution, or reject and return the forms for resubmission or cancellation. **In no event is Change Work to be initiated by Contractor prior to receipt of an Approved Change Order and subsequent execution by Contractor and return to Company Representative.**
- (c) If Company considers that the subject matter of a Change Request does not constitute a Change but is part of the Work, it shall notify Contractor accordingly in writing. Contractor shall proceed, without further formality, to perform fully such part of the Work.
- (d) Contractor has the responsibility to identify, by the issuance of a Change Request, any change to the Work that it believes to be necessary for environmental integrity, or that will benefit Company in terms of capital or



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operating cost, or improved performance flexibility, safety or operation of the Work.

- (e) Contractor shall notify Company promptly, but in any case within ten (10) Business Days, by the issuance of a Change Request after any of the following that Contractor interprets to be a Change or to require a Change Order:
  - (i) the occurrence of a happening or event; or
  - (ii) the issuance of an instruction, interpretation or decision, or the performance of any act, by Company; or
  - (iii) Contractor's discovery of any failure by Company to perform Company's obligations under this Agreement.
- (f) Each Change Request issued by Contractor pursuant to Section 10.3 (e) shall set out full details of Contractor's reasons for considering there to be grounds for a Change Order, and shall clearly specify the relevant provision(s) of the Agreement relative to which Contractor interprets there to have been a Change.
- (g) If Contractor does not issue a Change Request in accordance with Section 10.3 (e) and 10.3 (f) of this Exhibit then Company shall be released and discharged from all liability arising from or in connection with the said occurrence, instruction, interpretation, decision, act, or failure. Company shall be entitled to reject any Change Request not complying with the requirements set out above.

#### **10.4 Change Order Price**

- (a) Contractor's proposed Change Order Price will generally be stated as a lump sum price. Contractor shall provide such substantiation as Company may reasonably request regarding Contractor's proposed Change Order Prices.
- (b) Each lump sum price for a Change shall be determined according to the following principles:
  - (i) Using the rates in Exhibit 2 - Compensation provided the Change Work is the same type as or comparable to Work to which the rates in Exhibit 2 - Compensation are intended to apply.
  - (ii) Using the rates in Exhibit 2 - Compensation, adjusted to reflect the changed circumstances of the Change Work.
  - (iii) On a basis to be agreed between Company and Contractor if there are no applicable rates in Exhibit 2 - Compensation. Pending such agreement

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the Change Work shall be compensated at such rate or rates as Company shall, in its opinion, deem reasonable and proper in the circumstances.

- (iv) Contractor shall not be entitled to additional compensation in respect of:
- (1) Personnel already assigned full-time to the Work, except only to the extent that such Personnel are paid overtime or shift premiums, or their assignment to the Work is extended, specifically in relation to Change Work;
  - (2) Contractor's Spread and Contractor's Items already assigned full-time to the Work, except only to the extent that the hire period of rented items is extended specifically in relation to Change Work;
  - (3) Contractor's Spread to the extent that Change Work can be carried out concurrently with Work compensated on a Lump Sum basis and without extending the period that such Contractor's Spread are assigned to the Work.
- (c) (i) Subject to Section 10.4. (b) (iv) Change Work may, in full or in part be priced on a unit rate basis (where the compensation payable is determined according to Company Approved records of time worked, for Personnel, plant, equipment, marine vessels, and the like, and of materials and other resources used). In such instances the provisions of this Section 10.0 shall be followed by Contractor.
- (ii) Contractor shall notify Company in good time prior to starting such Change Work to allow Company to mobilize inspectors and Personnel to monitor the performance of the Change Work and the resources used. Unless Company agrees otherwise in writing, Contractor shall give such notification at least twenty four (24) hours before the start of the Change Work. The Company Representative designated to monitor the performance of the Change Work will be authorized to sign the corresponding time sheets for the Change Work.
- (iii) Contractor shall prepare detailed daily time sheets for Contractor's Spread, Personnel, and all other relevant resources utilized in performing said Change Work, and submit these within the next following day to Company for Approval.
- (iv) Company shall have no obligation to compensate Contractor for any time period where the time sheets are submitted more than forty eight (48) hours after performance of Change Work, where such late submittal prevents Company from verifying the accuracy of the time sheets.
- (v) Company's Representative designated to sign Change Work time sheets shall sign such time sheets on the basis of verification of Personnel and plant time expended, and this shall not signify that the time recorded was

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expended in an efficient manner nor commit Company to any costs whatsoever.

- (vi) The applicable rates in Exhibit 2 - Compensation shall be used to price such Change Work performed on a unit rate basis.
- (d) Each Change Request form shall state the proposed method of compensation for the Change Work (lump sum price, unit rates, reimbursable or a combination of any) together with the reason for such proposal. Company has the right to require an alternative compensation method.
- (e) Company will not compensate Contractor for any costs related to preparation and administration of Change Orders, responses to a Change Request, or preparation of Change Requests.
- (f) Each successive Change Order shall be deemed to take full account of the cumulative effects on the Agreement Price of the Change it documents, and of all prior Change Orders.

#### **10.5 Change Impact on Control Schedule**

- (a) Contractor shall submit full details to support any proposed impact of Change Work on the Control Schedule. Such details shall be submitted to Company in both hard copy and electronic format, and shall include detailed critical path analysis, the identification and full accounting for the use of float, and the current Control Schedule.
- (b)
  - (i) Each successive Change Order shall be deemed to take full account of the cumulative effects on the Control Schedule of the Change it documents, and of all prior Change Orders. Due consideration will be given to cumulative effects that may not have manifested themselves in previous Change Orders, for example, because the Changes concerned were able to be accommodated by reducing available float.
  - (ii) Any such cumulative schedule effects assessed by Contractor must be supported by a fully detailed analysis, to account satisfactorily for the use of float. This analysis shall include an electronic version of the current Control Schedule that clearly highlights such assessed schedule effects, and that Company can use to verify Contractor's analysis prior to Approval of the relevant Change Order.
  - (iii) Contractor shall update the Control Schedule for Company's Approval within five (5) Business Days after Company's Approval of any Change Order affecting the Control Schedule.

**10.6 Change Register**

- (a) Contractor shall maintain, fully updated at all times, a register of all Change Requests and Change Orders. The register shall show, as a minimum, the following information:
  - (i) Change Request and/ or Change Order number and date;
  - (ii) brief description of the Change Work;
  - (iii) status of Approval;
  - (iv) value;
  - (v) effects on Control Schedule;
  - (vi) brief description of the basis for the Change Request; and
  - (vii) reference to Change Request (if applicable).
- (b) Each Change Request shall be identified by means of a unique sequential reference number beginning with; 100 for Company Issue and 200 if issued by Contractor. Each Change Order (Approved) shall be identified by means of a unique reference number, which will be assigned by Company.
- (c) All Approved Change Orders that affect the Control Schedule shall be individually detailed, by reference number and summary description, in the successive Control Schedule updates issued by Contractor for Company's Approval.
- (d) Contractor shall submit a copy of the registers to Company on a monthly basis, or more frequently as required by Company.

**10.7 Payment for Change Work**

- (a) Contractor shall generally submit separate invoices for Changes, unless Company expressly agrees otherwise. Invoicing provisions shall be specified on each Change Order. All Changes shall be subject to the compensation provisions and payment terms set out in Article 12, Exhibit 2 – Compensation and Exhibit 4 – Coordination Procedures.
- (b)
  - (i) Regarding each Change priced on a lump sum price basis, the applicable Change Order shall identify how the lump sum price is to be invoiced by Contractor.
  - (ii) Regarding each Change priced on a unit rate or reimbursable basis, Contractor shall generally submit a monthly invoice for the pertinent Change Work performed during the previous month. Contractor shall provide copies of time sheets, third party charges, and other relevant

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items to support the charges for Change Work performed on a unit rate or reimbursable basis.

- (c) Under no circumstances will Contractor present invoices for, nor will Company compensate Contractor for, any work that has not been Approved by a Change Order.

## **11.0 ACCOUNTING**

Arrangements for invoicing are as stated in Article 12 and Exhibit 2 - Compensation.

### **11.1 Company Business Processes**

Contractor will comply with Company's business processes and controls associated with Work authorization, validation of Work progress and/or Work completion and invoicing.

On a monthly basis and for the preceding month, Contractor will submit appropriate information, acceptable to Company, demonstrating Work progress and/or Work completion activities that Contractor plans to invoice in the current month.

Invoices which do not comply with these requirements will be returned to Contractor.

### **11.2 Milestone Amounts**

Contractor shall submit invoices to Company in accordance with this Agreement for lump sum elements of the Agreement Price. Actual amounts invoiced shall be in accordance with the amounts and procedures specified in Article 12 and Exhibit 2 - Compensation.

Invoices for lump sum amounts shall be accompanied by an Approved Milestone Completion Certificate in the form set forth in Attachment 4-3 hereto, together with all relevant supporting documentation as Company may reasonably require.

### **11.3 Unit Rate and Reimbursable Contractor Costs**

Contractor must obtain Company Approval prior to:

- (a) the commencement of any portion of the Work to be performed on a reimbursable basis, and
- (b) the purchase of materials for which payment is to be made on a reimbursable basis.

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Invoices for reimbursable Contractor costs shall be submitted with all supporting documentation, including but not limited to copies of Approval, description of activity, Approved timesheets, third party invoices, requesting party, Company cost control accounts, activity breakdown, equipment references and the like Approved or otherwise, as described in the Agreement and as may be instructed by Company.

## **12.0 CONTRACTOR PROCUREMENT**

### **12.1 General**

Contractor shall comply with Article 6 and Exhibit 8.

### **12.2 Subcontractors**

With the exception of those subcontracted items and Approved Subcontractors listed in Exhibit 3 – Subcontractors, Contractor shall not subcontract any portion of the Work, or substitute an Approved Subcontractor without the prior Approval of Company.

Contractor shall adhere to the following process for the Approval of Subcontractors or the substitution of Subcontractors already Approved Subcontractors;

- (a) Issue a Notice to Company which includes the following;
  - (i) a detailed description of the portion of the Work to be subcontracted;
  - (ii) an explanation of why the portion of the Work is being subcontracted;
  - (iii) a schedule for the portion of the Work to be subcontracted including a description of its impacts on the Control Schedule;
  - (iv) a description of the process and criteria used in selection of the proposed Subcontractor; and
  - (v) the proposed Subcontractor name, address and qualifications relative to the portion of the Work being subcontracted.
- (b) Provide additional clarification information as requested by Company.
- (c) Proceed with Approved Subcontractor or develop alternate plan for completion of the Work within schedule, as applicable.

Company shall within five (5) Business Days of receipt of final clarification issue a Notice accepting or rejecting the proposed Subcontractor. Approval shall not be unreasonably withheld.

### **12.3 Reimbursable Materials and Services**

To the extent that Contractor is procuring reimbursable materials or services, Contractor shall competitively bid all sub-supplied materials and services with an estimated value of greater than twenty five thousand Canadian dollars (\$25,000) and shall maintain records of bid evaluation and supplier selection for Company review if requested. Contractor shall demonstrate best value to Company for all sub-supplied materials and services procured. Each package or reimbursable material or service shall not be divided into sub-packages to avoid the aggregate threshold value.

Contractor shall conduct a sealed bidding process for sub-supplied materials or services with a value of one hundred thousand Canadian dollars (\$100,000), or greater, and shall issue a formal award recommendation (addressing at a minimum, experience, equipment, team, safety, schedule and cost) for Company Approval prior to award. Contractor shall notify Company of bidding events including recommended bidders list, bid issue, bid receipt, bid opening, bid-clarification meetings, evaluation meetings and sub-contract kick off meetings at least two (2) days prior to the event.

Where sub-supplied materials or services, of any value, are procured from an employee, affiliate or subsidiary of Contractor, Contractor shall conduct a sealed bidding process and shall maintain bid evaluation records to ensure best value to Company. Where the estimated value of the sub-supplied materials or services is greater than one hundred thousand Canadian dollars (\$100,000) the Contractor shall notify Company of time and date of bid opening at least two (2) Business Days in advance.

### **12.4 Inspection**

Contractor shall be responsible for and undertake inspection of Subcontractors supplying equipment and materials for the Work in accordance with the requirements of Exhibit 1 - Scope of Work and this Exhibit 4. Contractor shall issue to Company inspection reports accompanied by all relevant inspection documents.

### **12.5 Shipping**

Contractor shall be responsible for shipment of all materials and equipment to the Worksite(s), including those shipments made by Subcontractors, in accordance with the requirements of Exhibit 1 - Scope of Work. Contractor must satisfy itself that shipping arrangements by Subcontractors are satisfactory or alternatively organize critical shipments itself or through the use of an appointed shipping or forwarding agent.

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Contractor shall establish and issue to all Subcontractors proper packaging, preservation handling, shipping and marking instructions including necessary addresses, proforma invoices, bills of lading, customs releases and the like, depending on the various methods of transport, border crossings and receiving location(s).

### **13.0 MATERIAL CONTROL**

#### **13.1 General**

Contractor shall maintain records of materials procured for the Work. In accordance with Article 14 and Article 16, Company shall have the right to carry out periodic inspection of all Contractors' storage and inventory control records for the Work as well as physical spot-checks of all material held in storage.

#### **13.2 Reporting**

As a part of the monthly progress report Contractor shall provide the Company with a listing of materials procured for the Work, including delivery status and/or storage locations.

#### **13.2 Company Supplied Items**

- (a) Contractor shall:
- (i) Receive all Company Supplied Items identified in Exhibit 5 – Company Supplied Items and as applicable unload, unpack, inspect, and confirm receipt and condition of receipt by issuing a material receiving report to Company confirming Contractor acceptance of items and the condition of items at the time of acceptance;
  - (ii) Ensure that all materials are used correctly and no materials are substituted without prior Company Approval;
  - (iii) Be responsible for the security and safe keeping, in accordance with Company's and the manufacturers guidelines/instructions for preservation and storage. Ensure all Company Supplied Items are visually marked as being provided for the Work to be performed by Contractor;
  - (iv) Maintain index, records and account for all Company Supplied Items received and installed, and the remaining surplus and scrap. Such index shall form part of the Monthly Progress Report and at a minimum, include description, part number, serial number, storage location, status and receipt date;



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- (v) Secure, protect, and maintain all Company Supplied Items in accordance with specifications, preservation requirements in accordance with industry practice and standards and as set forth in the Agreement; and
  - (vi) Contractors shall be responsible for any costs incurred as a result of Contractor's failure to properly store and preserve (protect) Company Supplied Items.
- (b) Company shall:
- (i) Supply Company Supplied Items, as specified in Exhibit 5 - Company Supplied Items, complete with available documentation to demonstrate traceability and quality assurance to Contractor in accordance with the delivery schedule and destination(s) identified in Contractor's Monthly Reports; and
  - (ii) have the right to inspect Company Supplied Items at their storage location and storage records at any time without prior Notice. Such inspection shall not relieve the Contractor of any responsibility for the accountability and safe keeping of materials.

#### **14.0 LABOUR RELATIONS**

Where industrial action may be contemplated or has occurred, Contractor shall immediately inform Company of the occurrence and within twenty-four (24) hours provide Notice of the occurrence, outlining possible consequences.

#### **15.0 INFORMATION SYSTEMS (IS)/INFORMATION TECHNOLOGY (IT)**

- a) Contractor shall establish and maintain an IT Infrastructure and associated computing environment to ensure overall reliability, performance and security control with service levels agreed between Company and Contractor for all IT communications;
- b) Contractor should describe the rationale and details of all computer programs, models and any specialist software it proposes to use in the execution of the Work;
- c) Contractor shall provide access for Approved Company Personnel for any software applications and supporting services requested in order to perform the Work;

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- d) Contractor shall be expected to maintain an upgrade path for electronic formats that will keep data formats compatible and consistent with Company's standards;
- e) Contractor shall be expected to securely transfer data and information electronically to Company on a timely basis using industry recognized standards-based processes, systems and methodologies;
- f) Contractor shall ensure control practices and risk mitigation plans are in place to provide protection and safeguard for all data and information related to the Work including but not limited to access management, data corruption and loss, and backup/disaster recovery procedures;
- g) Contractor shall provide a description of the IS/IT support organization and how it is structured to support the Work;

## 16.0 DATA

All documentation and information, including, without limitation, correspondence, notes reports, information identified and/or required by this Agreement, drawings, specifications, databases, records, videos, photos and other documents (hereinafter collectively referred to as "**Data**") shall be made available to Company in electronic native format as well as hard copy. The transfer of Data shall be by storage medium such as optical or magnetic discs, or other form specified from time to time by Company.

Contractor shall make available to Company all Data available in electronic media for use by Company during its continuing operations. Contractor shall undertake all reasonable efforts to ensure Data is provided in a form fully useable to Company with well recognized industry standard applications, including the requirements of Exhibit 4 - Coordination Procedures herein and Exhibit 6 - Company Supplied Document Listing. Where the software necessary to enable Company to fully utilize Data is based in whole or in part on Contractor's proprietary information/software, Contractor shall grant Company Group a non-exclusive, royalty free, irrevocable and non-transferable license to such information/software. Where such information/software is not proprietary to Contractor and obtained through usage of information/software leased or purchased from third parties, Contractor shall, subject to Company's Approval, arrange for and obtain for the benefit of the Company Group a non-exclusive, royalty free, irrevocable and non-transferable license to use such information/software to enable Company to fully utilize Data. All costs associated with third party charges for such information/software shall be included in the price. Company may, at its sole option

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Exhibit 4  
Coordination Procedures

and cost purchase/lease such information/software directly from manufacturers or other third party vendors. All Contractor's costs associated with such provision are deemed to be included in the Price and are not separately reimbursable.

Throughout the term of this Agreement, Company in conjunction with Contractor shall review Data to ascertain what data is to be passed to Company for future use.

It is Company's intent that Contractor utilizes as many of its own in place systems as possible.

**17.0 DOCUMENT REQUIREMENTS**

Contractor shall follow Company procedures (to be provided prior to award) for preparation and submittal of all drawings, documents, deliverables and reporting to Company.

**18.0 ATTACHMENTS**

The following forms will be provided prior to award:

- 4-1 Change Request
- 4-2 Change Order
- 4-3 Milestone Completion Certificate
- 4-4 Final Completion Certificate

Part 2  
Exhibit 4  
Attachment4-1  
Change Request

Attachment 4-1					
<b>ENL Maritime Link Inc.</b>					
<b>CHANGE REQUEST (CR)</b>					
Agreement No:		[Insert Agreement #]		CR NO	
Agreement Title:		[Insert Agreement Title]		REV. NO:	
Contractor:		[Contractor]		DATE:	
Description of Proposed Change Order and Reason:					
Description of impact on Control Schedule:					
Estimated Cost and/or adjustment to the Agreement Price:					
Item	Description	UOM	QTY	Unit Price	Extended Price
					0.00
					0.00
					0.00
					0.00
					0.00
					0.00
					0.00
					0.00
The below listed attachments, totalling #### pages, shall form a part of this Change Request;					
Value of this CR					\$ -
Previous Agreement Price					
Total Agreement Price					\$ -
<b>CONTRACTOR SIGNATURE</b>					
Reviewed and Approved By:		Name		Signature	
Contractor Representative					
<b>COMPANY REVIEW AND APPROVAL</b>					
Reviewed and Approved By:		Name		Signature	
Cost Control					
Planning					
Contracts Coordinator					
Technical Representative					
Project Manager					

Attachment 4-2  
Change Order

<b>CHANGE ORDER (CO)</b>																				
Between <b>ENL (Company) and [Contractor] (Contractor)</b>																				
<b>Agreement No:</b>	[Insert Agreement #]	<b>CO NO.</b>	0																	
<b>Agreement Title:</b>	[Insert Agreement Title]	<b>REV. NO:</b>	0																	
<b>Agreement Title:</b>	[Contractor]	<b>COR NO.</b>	0																	
		<b>DATE:</b>																		
<b>Description of Change:</b>          																				
<table border="0" style="width: 100%;"> <tr> <td style="width: 20%;">Change Includes:</td> <td style="width: 20%;"><input type="checkbox"/> Price</td> <td style="width: 20%;"><input type="checkbox"/> Schedule</td> <td style="width: 40%;"></td> </tr> <tr> <td rowspan="2">Adjustment Type:</td> <td><input type="checkbox"/> Lump Sum</td> <td><input type="checkbox"/> Unit Rate</td> <td><input type="checkbox"/> Reimbursable</td> </tr> <tr> <td><input type="checkbox"/> Fixed Amount</td> <td><input type="checkbox"/> Estimate</td> <td></td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 70%; padding: 2px;"><b>Value of this CO</b></td> <td style="width: 30%;"></td> </tr> <tr> <td style="padding: 2px;"><b>Previous Agreement Price</b></td> <td></td> </tr> <tr> <td style="padding: 2px;"><b>Total Agreement Price</b></td> <td style="padding: 2px; text-align: center;">\$ -</td> </tr> </table>				Change Includes:	<input type="checkbox"/> Price	<input type="checkbox"/> Schedule		Adjustment Type:	<input type="checkbox"/> Lump Sum	<input type="checkbox"/> Unit Rate	<input type="checkbox"/> Reimbursable	<input type="checkbox"/> Fixed Amount	<input type="checkbox"/> Estimate		<b>Value of this CO</b>		<b>Previous Agreement Price</b>		<b>Total Agreement Price</b>	\$ -
Change Includes:	<input type="checkbox"/> Price	<input type="checkbox"/> Schedule																		
Adjustment Type:	<input type="checkbox"/> Lump Sum	<input type="checkbox"/> Unit Rate	<input type="checkbox"/> Reimbursable																	
	<input type="checkbox"/> Fixed Amount	<input type="checkbox"/> Estimate																		
<b>Value of this CO</b>																				
<b>Previous Agreement Price</b>																				
<b>Total Agreement Price</b>	\$ -																			
Note:  																				
The below listed attachments, totalling ##### pages, shall form a part of this Change Order;																				
This Change Order is supplementary to the Agreement and is read with and construed in accordance with Agreement No. [Insert Agreement #], as if this Change Order and the Agreement, constitute one (1) Agreement. The above adjustment to Agreement Price and/or to the Schedule constitutes full compensation to the Contractor for the Change.																				
<b>APPROVAL</b>																				
Approved by: <hr style="border: none; border-top: 1px solid black;"/>		Accepted for: <hr style="border: none; border-top: 1px solid black;"/>																		
<b>ENL</b>		<b>[Contractor]</b>																		
Signature: _____		Signature: _____																		
Name: _____		Name: _____																		
Date: _____		Date: _____																		

**MILESTONE COMPLETION CERTIFICATE**

Date: \_\_\_\_\_

**Agreement #:** \_\_\_\_\_

**Agreement Title:** \_\_\_\_\_

**Contractor:** \_\_\_\_\_

**Milestone Description:** \_\_\_\_\_

**Milestone Amount:** \$ \_\_\_\_\_

Milestone Completion Criteria and Status (List Below):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contractor hereby notifies Company that it considers that it has met the criteria for achieving the above-referenced Milestone(s) as specified in Exhibit 2 – Compensation, and requests that Company Approve this Milestone Completion Certificate for such Milestone(s).

For Contractor:

\_\_\_\_\_  
Contractor Representative

\_\_\_\_\_  
Date

**Company Approval:**

Company hereby Approves this Milestone Completion Certificate in respect of the above referenced Milestone(s). Upon receipt of this Certificate Contractor is entitled to invoice Company in respect of the above referenced Milestone.

This Certificate does not relieve Contractor of any of its obligations to Company under the Agreement.

For Company:

\_\_\_\_\_  
Project Manager

\_\_\_\_\_  
Date

### FINAL COMPLETION CERTIFICATE

Agreement No.: \_\_\_\_\_  
 Agreement Title: \_\_\_\_\_ (the "**Agreement**")  
 Contractor: \_\_\_\_\_

To Company:

In accordance with Article 25 of the Agreement, Contractor hereby confirms that it has completed the Work in accordance with the Agreement, including its Warranty obligations. Final completion of the Work shall be effective upon execution and issuance of this Certificate by Company.

Contractor agrees that, as of the date of the delivery to Company of this Final Completion Certificate executed by Contractor, the Contractor waives, remises, releases and discharges the Company of any and all Claim that are known, ought to have been known or discoverable by reasonable means by the Contractor, which Contractor has or may have relating to or arising out of this Agreement and the subject matter of this Agreement, and all facts and circumstances related to the Work, save and except:

- Claims previously submitted in writing prior to the date of the Notice, and remaining unresolved; and
- the balance of the Price payable, if any, upon the issuance of the Final Completion Certificate.

Delivered by Contractor:

By: \_\_\_\_\_  
Contractor's Representative

Date: \_\_\_\_\_

### COMPANY'S CONFIRMATION

Company confirms the Contractor has completed the Work in accordance with the Agreement.

For Company:

By: \_\_\_\_\_  
Company's Project Manager

Date of Issuance: \_\_\_\_\_

**EXHIBIT 5**

**COMPANY SUPPLIED ITEMS**



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**2.0 CABLE CORRIDOR ..... 3**

**3.0 TRANSITION COMPOUNDS ..... 4**

**4.0 LANDFALL TO TRANSITION COMPOUND LAND..... 4**

## 1.0 GENERAL

Contractor shall supply all items required to complete the Work that are not defined within this Exhibit 5 - Company Supplied Items in compliance with the requirements of this Agreement.

Upon receipt and acceptance of Company Supplied Items, Contractor shall be responsible for the care, custody and control until handover after project completion.

A preliminary report on the environmental conditions within the Cabot Strait is provided in Exhibit 5A – Field Condition Cabot Strait (CAST). This information will be superseded by provision of documents listed in Exhibit 6 – Company Supplied Document Listing.

## 2.0 CABLE CORRIDOR

Company shall provide a cable corridor from Cape Ray, NL to Point Aconi, NS, of which is approximately one hundred eighty (180) kilometers distance from landfall to landfall.

The lay corridor has been designated by the Company for the installation of both HVDC cables across the CAST and, at its deepest depth, is approximately four hundred and seventy (470) metres deep and is two thousand (2000) meters in width. The corridor has been optimized to ensure a risk mitigated route from Cape Ray, NL to Point Aconi, NS.

The full description and geology of the cable corridor and landing sites is provided in Exhibit 6 - Company Provided Document Listing, Maritime Link Project Subsea Cable Route Survey Cabot Strait Cape Ray, Southwest NL to Point Aconi Region, Cape Breton, NS Geophysical Report - LCP-FG-CD-8100-MR-RP-0004-01.

Attachment 1 provides the plan view of the entire route and the potential landfall locations; two (2) on the NL side , Cape Ray Cove (A) and Wreckhouse Brook (A') and two (2) in NS, Cape Breton, western Point Aconi (P) and eastern shore of Point Aconi near Alder Point (P'). Each label in Attachment 1 corresponds to a drawing panel provided within the document.

For details with regards to landfall type and location in the proposed areas defined above refer to Exhibit 1 – Scope of Work.

### **3.0 TRANSITION COMPOUNDS**

The cable will be terminated by Contractor within transition compounds supplied by Company at both the Cape Ray, NL and Point Aconi, NS locations. The transition compounds will be constructed by Company's other Contractors. Engineering and construction of the transition compound will require an interface between Company and Contractor of which will be managed by Company. The transition compounds will be located a nominal distance of up to two (2) kilometers from the landfall onshore entry location at Cape Ray and Point Aconi.

The interface details between the Contractor provided termination and accessories and the Company provided overhead transmission will be defined by the Company.

### **4.0 LANDFALL TO TRANSITION COMPOUND LAND**

The Company will provide the land between the onshore landfall location and the transition compound where the land cable shall be installed once the locations are defined as per Exhibit 1 – Scope of Work.

Attachment 1



**EXHIBIT 5A**

**FIELD CONDITIONS OF CABOT STRAIT**

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## **1.0 FIELD CONDITIONS**

### **1.1 Cabot Strait Conditions**

#### **1.1.1 Environmental Conditions**

The Cabot Strait crossing environmental conditions include pack ice, a low frequency of ice bergs, moderate currents, fishing activities and water depths up to four hundred and seventy (470) meters. The following includes an overview of detailed studies and information of the above in addition to other important factors of the environmental conditions.

#### **1.1.2 Reference Datum**

The reference datum is World Geodetic System (WGS) eighty four (84) / North American Datum (NAD) eight three (83). Note that the Cabot Strait spans across two (2) Universal Transverse Mercator (UTM) zones UTM twenty one (21) and UTM twenty (20).

### **1.2 Environmental Conditions**

The environmental conditions within Cabot Strait are highlighted within this section.

**Note:** Detailed information on the environmental conditions will be contained in the formal reports specified in Exhibit 6 – Company Supplied Document listing.

#### **1.2.1 Ice and Icebergs**

Studies to determine the probability of occurrence of icebergs and pack ice in the Cabot Strait have been completed. Detailed results of the Ice and Iceberg study will be provided as part of the Agreement through the formal reports specified in Exhibit 6 – Company Supplied Document listing.

#### **1.2.2 Tides**

Tides in the Cabot Strait are semi-diurnal with two highs and lows every twenty four (24) to twenty five (25) hours. The Canadian Hydrographic Services tide tables (2006) report tides at Ile St-Paul (station #1530). According to the tide tables, the mean small tide at Ile St-Paul is 0.41 m with a maximum of 0.8 m and the large tide range mean is 1.04 m with a maximum of 1.3 m.

Cabot Strait is the main entry way for the tidal pulse from the North Atlantic Ocean into the Gulf of St Lawrence. The semi-diurnal tidal constituent has an amphidromic point just west of the Magdalen Islands, so that the amplitude increases with the distance from the Magdalen Islands to about 0.35m in the Cabot Strait. The diurnal constituent

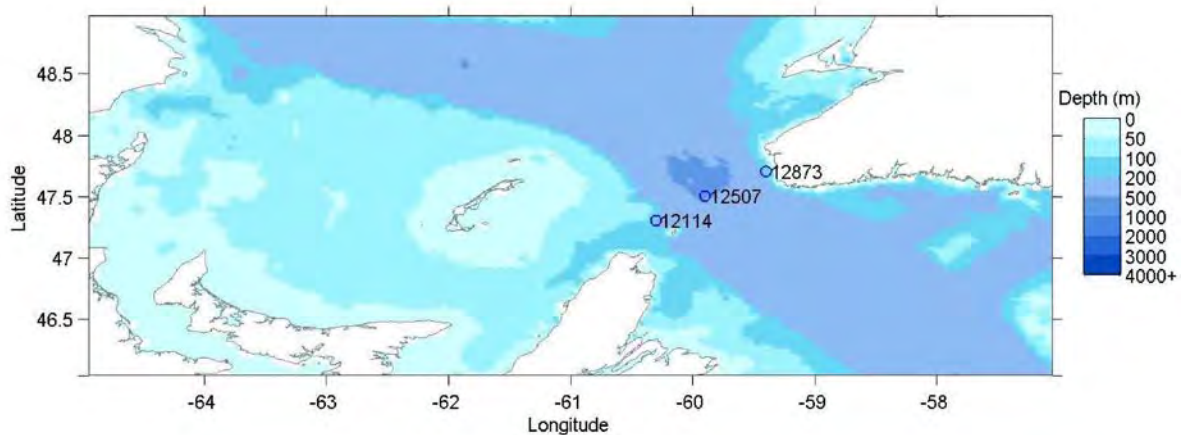
has an amphidromic point outside of the Gulf in the Atlantic Ocean to the southeast of Cape Breton Island, so that amplitude of the diurnal tides increases through the Cabot Strait (0.1m) into the Gulf of St. Lawrence.

### 1.2.3 Wave

Node 12507 is located within the Cabot Strait (Figure 1-1), and it illustrates that waves are strongly aligned in the northwest-southeast direction, with the flow of the Strait and with the exception of the northeast and east, waves are probable from all directions. Waves up to 10 m are infrequently observed. Waves within the 3.5 - 4 meter range are observed about 2-3 % of the time (table 1-1). The majority of waves for node 12507 are between 1 and 1.5 meters (21%).

Wave heights are approximately double in winter months (October-January) than they are in summer months. In winter months, waves are predominantly from the west and northwest. During summer months, wave direction is predominantly from the southwest and south.

**Figure 1-1: Nodal Locations in Cabot Strait**





**Table 1-1: Hs given in percentages for node12507**

Hs(m)	Direction (from)								Total
	N	NE	E	SE	S	SW	W	NW	
9.0- 9.5	0	0	0	0	0	0	0.002	0.001	0.003
8.5- 9.0	0.004	0	0	0.001	0	0	0.003	0.008	0.016
8.0- 8.5	0.004	0	0	0.003	0	0	0.005	0.017	0.03
7.5- 8.0	0.004	0	0	0.002	0.002	0	0.009	0.035	0.051
7.0- 7.5	0.008	0	0	0.007	0.002	0	0.016	0.033	0.066
6.5- 7.0	0.023	0.002	0.003	0.013	0.006	0.001	0.027	0.048	0.124
6.0- 6.5	0.041	0.008	0.005	0.024	0.016	0.005	0.038	0.08	0.218
5.5- 6.0	0.068	0.023	0.012	0.054	0.034	0.011	0.061	0.127	0.391
5.0- 5.5	0.098	0.03	0.017	0.094	0.058	0.016	0.125	0.204	0.641
4.5- 5.0	0.153	0.05	0.04	0.149	0.1	0.034	0.214	0.337	1.077
4.0- 4.5	0.274	0.089	0.088	0.193	0.159	0.068	0.334	0.488	1.693
3.5- 4.0	0.377	0.12	0.132	0.308	0.291	0.143	0.479	0.719	2.568
3.0- 3.5	0.495	0.2	0.18	0.486	0.49	0.316	0.746	1.001	3.914
2.5- 3.0	0.706	0.308	0.289	0.745	0.871	0.691	1.128	1.327	6.066
2.0- 2.5	1.034	0.483	0.52	1.287	1.485	1.425	1.519	1.734	9.488
1.5- 2.0	1.342	0.626	0.741	2.082	2.816	2.631	2.105	2.177	14.52
1.0- 1.5	1.741	0.711	0.815	3.491	4.871	4.075	2.624	2.601	20.929
0.5- 1.0	1.511	0.618	0.652	4.328	5.339	3.037	1.959	1.809	19.253
0.0- 0.5	2.176	1.629	1.426	2.194	2.499	2.329	3.333	3.365	18.952
Total	10.059	4.898	4.92	15.461	19.04	14.783	14.727	16.113	100

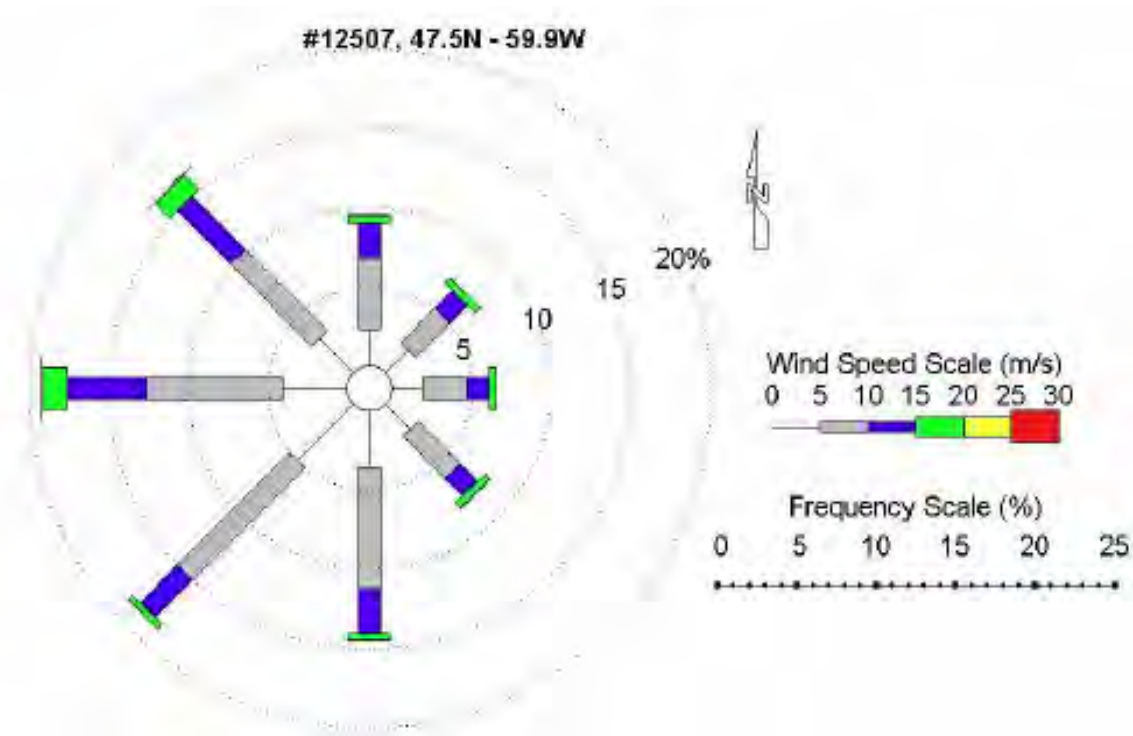
**Reference Source:**

*Proposed Subsea HVDC Cable Route Cabot and Northumberland Straits Newfoundland and Labrador Data  
Compilation Desk Study Report Document No. 7045SGN-DC1142-DKSD-001 Rev 0*

**1.2.4 Wind**

The wind direction statistics were calculated and provided by the Meteorological Services Canada, for the period 1954 to 2005, inclusive. The annual and monthly wind roses for position 47.5°N, 59.9° W are in figure 1-2. Wind speeds are at a maximum from November through February and reach a maximum of 20 m/s.

**Figure 1-2 - Annual Wind Rose for MSC50 node 12507**



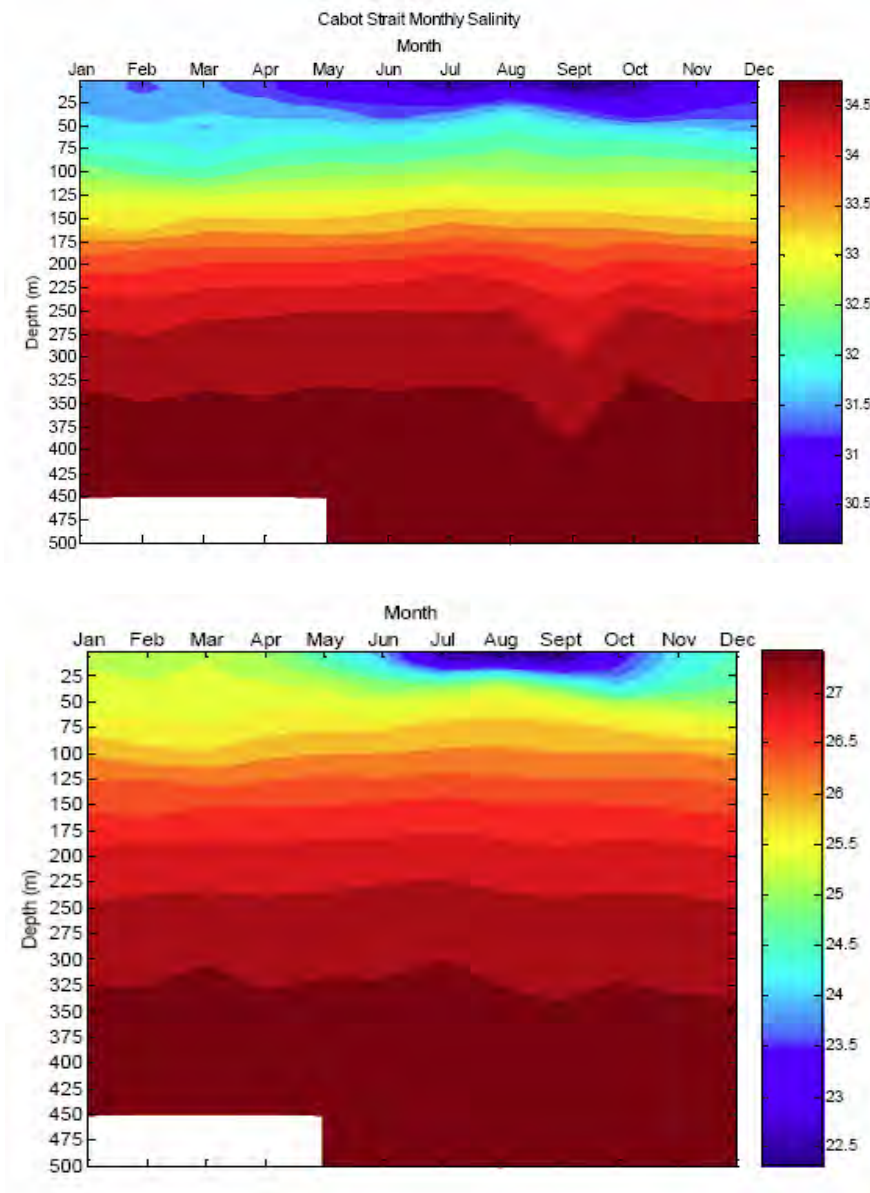
**Reference Source:**

*Proposed Subsea HVDC Cable Route Cabot and Northumberland Straits Newfoundland and Labrador Data Compilation Desk Study Report Document No. 7045SGN-DC1142-DKSD-001 Rev 0*

**1.2.5 Salinity and Density**

Figure 1-3 indicates the salinity changes throughout the year, for node 12507, in the Cabot Strait.

**Figure 1-3 - Salinity and Density Profiles: Cabot Strait**



**Reference Source:**

*Proposed Subsea HVDC Cable Route Cabot and Northumberland Straits Newfoundland and Labrador Data Compilation Desk Study Report Document No. 7045SGN-DC1142-DKSD-001 Rev 0*

### 1.2.6 Current

Table 1-2 provides a general outlook of the currents across the Cabot Strait at different depths.

**Table 1-2: Summary of Current Measurements in the Cabot Strait by Depth**

Depth (m)	Max Speed (m/s)	Mean Speed (m/s)	Most Frequent Direction (to)
9 to 19	1.49	0.26	ESE
20 to 29	2.12	0.20	SE
30 to 40	0.53	0.05	E, ESE, SE
50 to 59	1.03	0.11	NW
60 to 69	0.62	0.09	WNW, NW
70 to 79	1.57	0.12	ESE, SE
90 to 99	0.98	0.07	NW
100 to 110	0.79	0.11	NW
130 to 145	1.19	0.09	ESE
170 to 175	0.82	0.04	NNW, N
225 to 250	0.56	0.04	NNW
280 to 300	1.10	0.07	SSE
310 to 350	0.50	0.03	ESE, NW
470	0.33	0.03	ENE, NNW,N,NNE

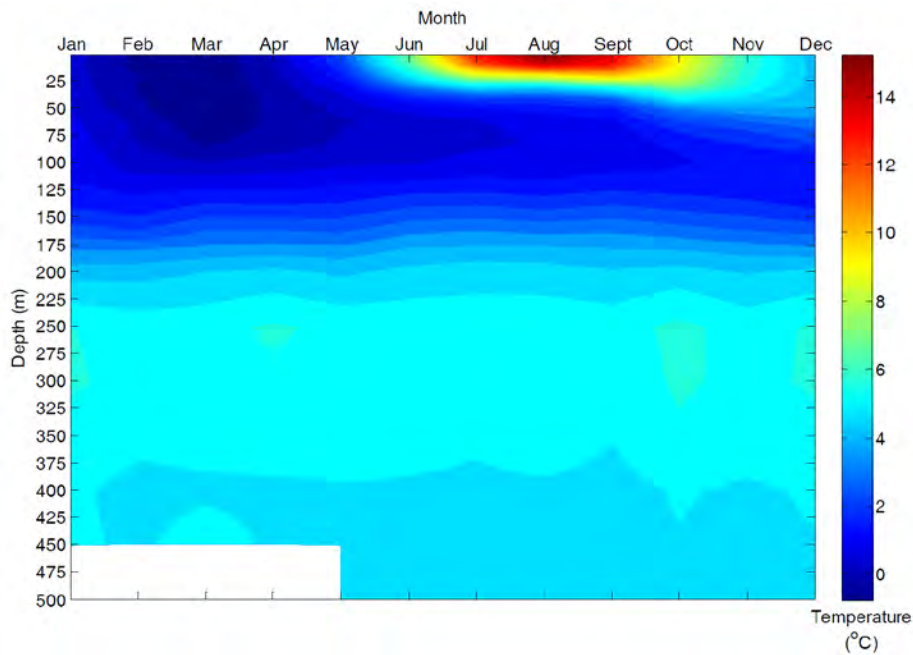
**Reference Source:**

*Proposed Subsea HVDC Cable Route Cabot and Northumberland Straits Newfoundland and Labrador Data Compilation Desk Study Report Document No. 7045SGN-DC1142-DKSD-001 Rev 0*

**1.2.7 Sea Temperature**

The general temperature of the water in the Cabot Strait with respect to depth versus what time of the year is illustrated in Figure 1-4.

**Figure 1-4: Cabot Strait Monthly Water Temperature**



**Reference Source:**

*Proposed Subsea HVDC Cable Route Cabot and Northumberland Straits Newfoundland and Labrador Data Compilation Desk Study Report Document No. 7045SGN-DC1142-DKSD-001 Rev 0*

**EXHIBIT 6**

**COMPANY SUPPLIED DOUCUMENT LISTING**

## Company Supplied Document Listing

Category	Document	Expected Availability
Engineering/ Operations/ Maintenance/ Completions	Operations and Maintenance Philosophy	Prior to Mobilization
	Company procedures for preparation & submittal of drawings, documents, deliverables and reporting.	Prior to Award
Environment and Sustainability	Environmental Policy	With RFP
Health and Safety	Occupational Health and Safety Policy	With RFP
	Health and Safety Management Plan	Prior to Mobilization
Human Resources and Organizational Effectiveness	Standard for Drug and Alcohol	Prior to Mobilization
Information Management	Standard for the Coding of Information	Prior to Mobilization
	Directions to Contractors/Suppliers for Document Requirements	Prior to Mobilization
Information Services	Procedure	Prior to Mobilization
Project Controls	Project Work Breakdown Structure and Code of Accounts	Prior to Mobilization
	Project Controls Management Plan	Prior to Mobilization
Security Management	Security Management Plan	Prior to Mobilization
Other Documents	Fishing Activity Study: Cabot Strait Maritime Crossing	With RFP
	Ice Risk Analysis : Cabot Strait Maritime Crossing	With RFP
	Maritime Link Project Subsea Cable Route Survey Cabot Strait Cape Ray, Southwest Newfoundland To Point Aconi Region, Cape Breton, Nova Scotia Geophysical Report	With RFP
	Interpretation of Recent Survey Data: Cabot Strait	With RFP
	Vessel Traffic Information	With RFP
	MetOcean Report: Cabot Strait Maritime Crossing	Late March 2012
	Sediment Transfer Analysis: Cabot Strait Maritime Crossing	Late March 2012
	Trenched Landfall Feasibility Study	Late March 2012
	HDD Landfall Feasibility Study	Late March 2012

**EXHIBIT 7**

**DELIVERABLES LIST**



Part 2  
Exhibit 7  
Deliverables List

<b>DELIVERABLES LIST</b>	
<b>Description</b>	<b>Due Days after Agreement Effective Date</b>
Detailed Project Execution Plan	+30 days
Technical Interface Management Procedure	+90 days
Detailed Organization Charts	+30 days
Workscope Quality Plan	+60 days
Health and Safety Plan	+60 days
Inspection and Test Plans	+60 days
Emergency Response Bridging Document	+60 days
Schedule Development Controls Plan (Incl. Progress Measurement)	+ 30 Days
Cost Management Plan	+30 days
Risk Assessment Report	+90 days
Invoicing and Payment Plan	+30 days
Monthly Progress Format	+30 days
Bi-Weekly Report Format	+30 days
Insurance Confirmation	+60 days
Document Register (Master Document Register)	+60 days
Document Control Procedure	+60 days
Manufacturing Records Book (TOC)	+60 days
Mechanical Completion Dossier (TOC)	+60 days
Environmental Protection Plan	+60 days
Design Submittals and Review process	+90 days
Control Schedule	+45 days
Performance Security	+30 days
Quality Audit Schedule	+60 days
Letter of Good Standing Workers Compensation Board of Nova Scotia and Newfoundland and Labrador workplace.	+30 days
Letter of Compliance (Industry Canada)	+30 days
Letter of Good Standing (Registry of Companies)	+30 days
Security Plan (Overview)	+ 60 days
Cable lay tables in tabular and graphical format	TBD

Nova Scotia and Newfoundland & Labrador Benefits Statement

**EXHIBIT 8**

**NOVA SCOTIA AND NEWFOUNDLAND & LABRADOR BENEFITS STATEMENT**

**CONTRACTOR'S OBLIGATIONS**

Nova Scotia and Newfoundland & Labrador Benefits Statement

**CONTRACTOR'S OBLIGATIONS**

Contractor's obligations (extracts from the Proponents' response to the RFP in Part I, Section 0.4.16 Nova Scotia and Newfoundland & Labrador Benefits Statement) will be added herein.

**EXHIBIT 9**

**PERFORMANCE SECURITY**

## PARENT COMPANY GUARANTEE

This agreement (hereinafter called the "Guarantee") is made this \_\_\_\_\_ day of \_\_\_\_\_, 201\_\_\_\_ by (Parent Company) (hereinafter called "Guarantor") who is the Parent Company of \_\_\_\_\_; in favour of \_\_\_\_\_ (hereinafter called the "Company").

### WITNESSETH

In consideration of Company entering into contract (hereinafter called the "Agreement") with Guarantor's subsidiary (name of Contractor), whose registered office or principal place of business is (Contractor address) (hereinafter called "Contractor"), for the performance by Contractor of (Submarine Cable Design, Supply and Installation for the Cabot Strait under the Agreement), the Guarantor hereby agrees with Company as follows:

#### 1.1 Guarantee

The Guarantor hereby absolutely, unconditionally and irrevocably guarantees to ENL Maritime Link Inc. and its successors and assigns (collectively, the "**Guaranteed Parties**"), as a direct obligation, the full and prompt performance, payment and observance by the Contractor of each and every acknowledgement, covenant, agreement, undertaking, indemnity, waiver, release and obligation of the Contractor contained in the Agreement (collectively, the "**Guaranteed Obligations**").

#### 1.2 General Provisions Relating to the Guarantee

- (a) Each and every default in performance, observance or payment of any of the Guaranteed Obligations by the Contractor shall give rise to a separate Claim hereunder, and separate Claims may be made and brought, as the case may be, hereunder as each such default occurs.
- (b) The guarantee herein provided for shall be a continuing, absolute and unconditional guarantee of performance, observance and payment of the Guaranteed Obligations and shall remain in full force and effect until each and all of the Guaranteed Obligations shall have been fully and satisfactorily discharged in accordance with the terms and provisions of the Agreement and the Guarantor shall have fully and satisfactorily discharged all of its obligations under this Guarantee.
- (c) The liability of the Guarantor hereunder shall remain in full force and effect irrespective of and shall in no way be affected or impaired by (and no notice to the Guarantor shall be required in respect of):
  - (i) any compromise, waiver, renewal, extension, indulgence, amendment, addition, deletion, change in, modification of, or release of any security (including any other guarantee, letter of credit, bond or holdback) for or in respect of any of the Guaranteed Obligations;

## Parent Company Guarantee

- (ii) any failure, neglect or omission on the part of ENL Maritime Link Inc. to give the Guarantor notice of the occurrence of any default by the Contractor under or with respect to the Guaranteed Obligations, or to realize upon any obligations or liabilities of the Contractor;
  - (iii) any amalgamation, merger or consolidation of the Contractor or the Guarantor or any sale, lease or transfer of any of the assets of the Contractor or the Guarantor;
  - (iv) any change in the ownership of any shares of the capital stock of the Guarantor or the Contractor;
  - (v) any change in the financial condition of the Contractor or the Guarantor or a Guaranteed Party;
  - (vi) any Insolvency Event affecting the Contractor or its assets or a Guaranteed Party or its assets, or any resulting release, stay or discharge of any Guaranteed Obligation;
  - (vii) any lack or limitation of power, incapacity or disability on the part of the Contractor any other irregularity, defect or informality on the part of the Contractor with respect to the Guaranteed Obligations;
  - (viii) any provision of any laws, statutes, rules or regulations or any other circumstance that might constitute a defence available to, or a discharge of, the Guarantor in respect of this guarantee, provided always that the indebtedness, obligations and liabilities guaranteed by the Guarantor hereunder shall in all circumstances be limited to the covenants, agreements, undertakings, obligations and liabilities of the Contractor under this Agreement;
  - (ix) the assignment by ENL Maritime Link Inc. of its interest, in whole or in part, in and to the Agreement; or
  - (x) any other occurrence or circumstance whatsoever, whether similar or dissimilar to the foregoing and any other circumstance that might otherwise constitute a legal or equitable defence or discharge of the liabilities of a guarantor or surety that might otherwise limit recourse against the Guarantor.
- (d) The obligations and liabilities of the Guarantor hereunder shall not be impaired, diminished, abated or otherwise affected by:
- (i) any claim, including any set-off, defence, deduction, counterclaim or cross-claim that the Contractor or the Guarantor may have or claim to have, at any time or from time to time; or
  - (ii) the commencement by or against the Contractor or the Guarantor of any proceedings under any bankruptcy or insolvency law or laws relating to

## Parent Company Guarantee

the relief of debtors, readjustment of indebtedness, reorganizations, arrangements, compositions or extension or other similar laws.

- (e) A Guaranteed Party shall not be bound to exhaust its recourse against the Contractor or others or any securities (including, any Surety Bonds, letter of credit, insurance policy and/or other bond) or other guarantees it may at any time hold before being entitled to performance of or payment of the Guaranteed Obligations from the Guarantor and the Guarantor renounces all benefits of discussion and division.
- (f) It is the intent and purpose hereof that the Guarantor shall not be entitled to and does hereby waive any and all defences available to guarantors, sureties and other secondary parties at law or in equity. Without limiting the generality of the foregoing, the Guarantor hereby waives notice of acceptance of this Agreement and of the non-performance by the Contractor, diligence, presentment, protest, notice of protest, dishonour, demand for payment from ENL Maritime Link Inc. and notice of non-payment or failure to perform on the part of the Contractor and all other notices whatsoever. The guarantee hereunder is a guarantee of payment, performance and compliance. In order to hold the Guarantor liable hereunder, there shall be no obligation on the part of a Guaranteed Party at any time to demand or resort for payment or performance to the Contractor, its properties or assets or to any security, property or other rights or remedies whatsoever, nor shall there be any requirement that the Contractor be joined as a party to any proceeding for the enforcement of any provision of this Guarantee and a Guaranteed Party shall have the right to enforce the provisions of this Guarantee irrespective of whether or not legal proceedings or other enforcement efforts against the Contractor are pending, sought, resorted to or otherwise realized upon. Without limiting the foregoing, it is understood that repeated and successive demands may be made and recoveries may be had hereunder as and when from time to time, the Contractor shall default under or with respect to any of the Guaranteed Obligations, and that, notwithstanding recovery hereunder for or in respect of any such default, the guarantee herein shall remain in full force and effect un-amended and shall apply to each and every subsequent default.
- (g) Without prejudice to and without releasing, discharging, limiting or otherwise affecting in whole or in part the obligations and liabilities of the Guarantor under this Guarantee and without in any way requiring the consent of or giving notice to the Guarantor, a Guaranteed Party may grant time, renewals, extensions, indulgences, releases and discharges to and accept compositions from or otherwise deal with the Contractor or the Guarantor or others, including any other guarantors, as such Guaranteed Party may see fit and such Guaranteed Party may take, abstain from taking or perfecting, vary, exchange, renew, discharge, give up, realize on or otherwise deal with security and guarantees in such manner as such Guaranteed Party may see fit.

## Parent Company Guarantee

- (h) The guarantee hereunder shall continue to be effective, or be reinstated, as the case may be, if at any time payment, or any part thereof, of any of the obligations hereunder is rescinded or must otherwise be restored or returned by a Guaranteed Party upon the insolvency, bankruptcy or reorganization of the Contractor or the Guarantor, or otherwise, all as though such payment had not been made.
- (i) Neither an action or proceeding brought under the guarantee hereunder regarding the Guaranteed Obligations nor any judgment or recovery in consequence of that action or proceeding operates as a bar or defence to any further action that may be brought under such guarantee. The Guarantor acknowledges and agrees that, if judgment is granted on an action or proceeding commenced under the guarantee hereunder, the Guarantor's obligations to the Guaranteed Parties do not merge with such judgment or end the Guarantor's obligations hereunder.
- (j) The liability of the Guarantor under the guarantee herein shall arise forthwith after demand has been made in writing on the Guarantor, and the liability of the Guarantor shall bear interest from the date of such demand at the Average Prime Rate plus three percent (3%) per annum, calculated daily not in advance.
- (k) In addition to satisfaction of the Guaranteed Obligations, the Guarantor agrees to pay to each of the Guaranteed Parties any and all reasonable out-of-pocket costs and expenses, including legal fees on a solicitor and his own client basis and other professional advisor charges incurred by it in connection with enforcing any of its rights hereunder.
- (l) A waiver by a Guaranteed Party of any right or remedy hereunder on any one occasion shall not be construed as a bar to any right or remedy which such Guaranteed Party would otherwise have had on any future occasion with regard to any subsequent breach. No failure to exercise nor any delay in exercising on the part of such Guaranteed Party any right, power or privilege hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The rights and remedies herein provided are cumulative and may be exercised singly or concurrently, and are not exclusive of any other rights and remedies provided under this Agreement or otherwise by law.
- (m) The Guarantor covenants that until the satisfaction and performance in full of all Guaranteed Obligations, the Guarantor will not:
  - (i) exercise against the Contractor or against any security held by it for any of the Guaranteed Obligations any right or remedy arising by reason of the observance and/or performance of any Guaranteed Obligations



Parent Company Guarantee

under this guarantee, whether by subrogation, contribution, indemnity, set off or otherwise; or

- (ii) claim as a creditor or otherwise in competition with ENL Maritime Link Inc. in respect of any monies owing to ENL Maritime Link Inc. for or on account of the Guaranteed Obligations in any bankruptcy, liquidation or other insolvency proceedings relating to the Contractor; and the Guarantor covenants to give ENL Maritime Link Inc. the benefit of each such Claim and of all monies received or receivable in respect thereof and in the meantime hold the same in trust for ENL Maritime Link Inc.
- (n) The Guarantor covenants and agrees with ENL Maritime Link Inc. that it has not taken and will not take any security from the Contractor or a Partner in respect of the Guaranteed Obligations. Any security taken by the Guarantor in breach of this provision, and all monies at any time received or receivable in respect thereof, shall be held in trust for ENL Maritime Link Inc. as security for the Guaranteed Obligations.

IN WITNESS whereof the Guarantor has caused this Guarantee to be executed by its duly authorized representatives the day and year first above written.

(Contractor's Parent Company Name)

(Guarantor)

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Draft Letter of Credit

\_\_\_\_\_ (Bank)

(Date)

To: ENL Maritime Link Inc.  
9 Austin Street

St. John's, NL A1B 4C1  
Canada

Irrevocable Standby Documentary Credit

Ref. No.

Pursuant to the request of our customer \_\_\_\_\_  
(hereinafter called **CONTRACTOR**), we hereby establish an Irrevocable Standby Documentary Credit in  
your favour, in connection with performance of requirements stipulated in the agreement between our  
customer and ENL Maritime Link Inc. dated X date, for a sum not exceeding a total of

Canadian Dollars ( \$ \_\_\_\_\_ ).

Partial and multiple drawings are allowed hereunder. All or part of the amount available under this  
Credit is payable to you on demand upon presentation of your drafts at sight drawn on (Bank Approved  
By ENL Maritime Link Inc.) Halifax, Nova Scotia, Canada. Any amount drawn down under this Credit shall  
not reduce the overall total amount of this Credit.

The effective date of this Credit is \_\_\_\_\_. This Credit will expire at our office at  
on \_\_\_\_\_. It is a provision of this Credit that it shall be deemed to be  
automatically extended, without amendment for successive one year periods from the present or any  
future expiration date, unless cancelled by any of the following:

- 1) upon receipt of this original Credit accompanied by your written authorization to us to  
cancel same;
- or
- 2) our written notification of the immediate cancellation of this Credit and at the same time  
forwarding to you, together with such written notification, a bank draft in the amount of [\$],  
payable to ENL Maritime Link Inc.

All of your drafts drawn under and in compliance with the terms of this Credit will be honoured if duly  
presented at before-said branch office of the (Bank Approved By ENL Maritime Link Inc.) on or before  
the expiration or cancellation date, as applicable, notwithstanding any notice that may be given by the  
**CONTRACTOR** or any other party or person to us not to pay the same.

After the expiration or cancellation date of this Credit, as applicable, we shall not have any further  
liability to ENL Maritime Link Inc.

We understand that our customer and ENL Maritime Link Inc. may, from time to time, agree to amendments or other variations or extensions of, the terms of the agreement between such parties referenced above and our obligations under this Credit shall apply notwithstanding any such amendments, variations or extensions, provided that our maximum liability to you shall not exceed the amount stated in this Credit.

This Credit shall be governed and construed in accordance with the laws of the Province of Nova Scotia and the laws of Canada applicable therein.

This Credit is subject to the Uniform Customs and Practice for Documentary Credits (1993 Revision), International Chamber of Commerce, Paris, France, Publication No. 500), as amended.

Yours very truly,

(Bank Approved By ENL Maritime Link Inc.)

**BANK's** Address

**Form of Performance Bond**

No. \_\_\_\_\_ \$ \_\_\_\_\_.

**KNOW ALL MEN BY THESE PRESENTS THAT** \_\_\_\_\_, hereinafter called "**PRINCIPAL**", and \_\_\_\_\_ a corporation created and existing under the laws of \_\_\_\_\_ and duly authorized to transact the business of Suretyship in \_\_\_\_\_, hereinafter called "**SURETY**", are held and firmly bound unto \_\_\_\_\_, hereinafter called "**OBLIGEE**", in the amount of Dollars (\$ \_\_\_\_\_ ) lawful money of Canada, for the payment of which sum, well and truly to be made, **PRINCIPAL** and **SURETY**, jointly and severally, bind themselves and each of them and their and each of their heirs, executors, administrators, successors and assigns firmly by these presents.

**WHEREAS, PRINCIPAL** has submitted a written Contract to **OBLIGEE**, dated the \_\_\_\_ day of \_\_\_\_\_, 20\_\_, for Contract \_\_\_\_\_ in accordance with the Specifications and Drawings submitted therefor which Contract, Specifications and Drawings, are by reference made part hereof and hereinafter referred to as the Contract.

**NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION** is such that if **PRINCIPAL** shall promptly and faithfully perform the Contract then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever **PRINCIPAL** shall be, and declared by **OBLIGEE** to be, in default under the Contract, **OBLIGEE** having performed **OBLIGEE's** obligations up to the time of default thereunder, **SURETY** may promptly remedy the default, or shall promptly:

- (1) complete the Contract in accordance with its terms and conditions; or
- (2) obtain a bid or bids for submission to **OBLIGEE** for completing the Contract in accordance with its terms and conditions, and upon determination by **OBLIGEE** and **SURETY** of the lowest responsible bidder, arrange for a contract between such bidder and **OBLIGEE** and make available as work progresses (even though there should be a default, or a succession of defaults, under the contract or contracts of completion, arranged under

this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which **SURETY** may be liable hereunder, the amount hereinbefore set forth. The term "balance of the Contract Price", as used in this paragraph, shall mean the total amount payable by **OBLIGEE** to **PRINCIPAL** under the Contract, less the amount properly paid by **OBLIGEE** to **PRINCIPAL**.

Any suit under this Bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract is due.

**SURETY** shall not be liable for a greater sum than the specified amount of this Bond.

No right of action shall accrue on this Bond to, or for the use of, any person or corporation other than **OBLIGEE** named herein, or the heirs, executors, administrators or successors of **OBLIGEE**.

**PROVIDED, HOWEVER**, that no variation or alteration which may be made in the said Contract, or in the extent, nature, or method of performance of the Work to be performed thereunder, and no extension of time given by **OBLIGEE** for the performance of the said Contract, nor any waiver, forbearance or forgiveness on the part of either **PRINCIPAL** or **OBLIGEE** to the other shall in any way release **PRINCIPAL** and **SURETY**, or either of them, their heirs, executors, administrators, successors and assigns from their liability hereunder; notice to **SURETY** of such variation, alteration, extension, waiver, forbearance or forgiveness being hereby expressly waived.

**AND IT IS HEREBY DECLARED AND AGREED** that **SURETY** shall be liable under this obligation as fully as if it were **PRINCIPAL** and that nothing of any kind or nature whatsoever that will not discharge **PRINCIPAL** shall operate as a discharge or a release of liability to **SURETY**, any law, rule or equity or usage relating to the liability of sureties to the contrary notwithstanding.

**IN TESTIMONY, WHEREOF, PRINCIPAL** has hereto set its hand and affixed its seal, and **SURETY** has caused its corporate seal to be affixed hereto, in accordance with its regulations and in the presence of its duly authorized

officers this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_.

Form of Performance Bond

THE **COMMON SEAL** of **PRINCIPAL**  
was hereon affixed in the presence of:

)  
)  
) By  
)  
)  
) And  
(Seal)

\_\_\_\_\_

**(Witness)**

**(PRINCIPAL)**

THE **COMMON SEAL** of **SURETY**  
was hereon affixed in the presence of:

)  
)  
) By  
)  
)  
) And  
(Seal)

\_\_\_\_\_

**(Witness)**

**(SURETY)**

**SURETY's Address**

**EXHIBIT 10**

**DECLARATION OF RESIDENCY**

**DECLARATION OF RESIDENCY**

We represent that [Click here to enter text.](#) \* **is/is not** a resident of Canada  
(Proponent's name)

for Canadian Income Tax purposes. If at any time our residency status changes we shall inform Company immediately by issuance of a revised 'Declaration of Residency'.

SIGNATURE:

---

NAME:

---

TITLE:

---

DATE:

---

\* Delete as appropriate.



**EXHIBIT 11**

**MILESTONE SCHEDULE**

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## 11.1 MILESTONES

The Milestones set-out in herein shall be adhered to by the Contractor during the execution of the Work. The Contractor's Work execution approach and Control Schedule progress strategy will provide early performance indicators to the Company of any schedule delays, cost and or Changes. The Contractor is responsible for advising the Company of progress updates for each Milestone using the methods as agreed with Company. There shall be no change to the Milestone dates except by issuance of Company Approved Change Order.

The Company has provided a sample listing of Milestones below for the Contractor to review and incorporate as deemed necessary; subject to Company approval.

No.	Description	Months. from Effective Date	Milestone Date	Milestone Completion Criteria
	<b>General - Submarine Cable Design, Supply and Install, CAST (Maritime Link)</b>			
E11-18M001	'Target' Effective Date (Contract Award)			
E11-18-M002	Project control procedures, project quality plan, Execution Plan, and project safety plan approved by Company			
E11-18-M003	Interface Register, initial version, approved by Company.			
E11-18-M004	Handover of Company Supplied Items (specify)			
	<b>Submarine Cable Design and Supply, CAST (Maritime Link)</b>			
E11-18-M005	Submarine Cable engineering commencement			
E11-18-M006	Place Major PO's and Subcontracts (specify)			

## Milestone Schedule

No.	Description	Months. from Effective Date	Milestone Date	Milestone Completion Criteria
E11-18 – M007	Pre-Qual Testing – Polymeric Only			
E11-18 – M008	Type Testing – Polymeric Only			
E11-18 – M009	Routine Testing – Both Cables			
E11-18- M010	Commence Manufacturing of submarine cables			
E11-18- M011	Factory Acceptance Testing / Completion of submarine cables manufacturing			
	<b>Submarine Cable Installation, CAST (Maritime Link)</b>			
E11-18- M012	Submission of Installation Procedures and Method Statements			
E11-18- M013	Agreement Award			
E11-18- M014	<i>Submarine Cable loaded-out and ready to depart</i>	44	March 15 <sup>th</sup> , 2016	<p><b>SAMPLE ONLY:</b></p> <ul style="list-style-type: none"> <li>• <i>Completion of pre-engineering and pre-loadout for the Submarine Cables; this testing is to be agreed to by Contractor and Company,</i></li> <li>• <i>Submarine cables installation procedures and final Route Approve by Company,</i></li> <li>• <i>Contractor acceptance on the sub-sea location of the submarine cables once all pre-leveling activities are complete,</i></li> <li>• <i>Mechanical Completion Dossier approved by Company</i></li> <li>• <i>Company issued sail away Certificate for Cable Installation vessel (CIV).</i></li> </ul>

No.	Description	Months. from Effective Date	Milestone Date	Milestone Completion Criteria
*E11-18-M015	"Target" Contractor's Spread arrival on site to begin installation			
E11-18-M016	Landfall and Transition joining - Cable #1			
E11-18-M017	Landfall and Transition joining - Cable #2			
E11-18-M018	Pre-commissioning, Post termination of Submarine and Land Cable # 1 (Protection/Trenching Complete)			
E11-18-M019	Pre-commissioning, Post termination of Submarine and Land Cable # 2 (Rock Placement/Trenching Complete)			
E11-18-M020	Completion of Submarine Cable # 1 installation and testing			
E11-18-M021	Completion of Submarine Cable # 2 installation and testing			
E11-18-M022	Mechanical Completion and Acceptance of Final Completions Certificate and hand-over to Company			
E11-18-M023	Final As-Built Documentation Dossiers Accepted by Company			

*\* Target date only, subject to call-off period as detailed in RFP Contract, Exhibit 2*

## **11.2 SUMMARY SCHEDULE**

The Summary Schedule, as included in this Exhibit, shall incorporate all agreed Milestones and shall be a roll-up from the detailed Control Schedule.

## **11.3 OFFSHORE RESTRICTIONS ON POST SEPTEMBER 1, 2016**

Notwithstanding any other provisions of the Contract, Contractor shall not be entitled to a revision of the Control Schedule in respect of Weather Downtime during offshore activities that occur after 00:01 hrs. September 1, 2016.

**EXHIBIT 12**

**CONTRACTOR'S FACILITIES**

(TO BE EXTRACTED FROM THE PROPOSAL)

The below described facilities shall be used by the Contractor in the performance of the work and shall not be substituted without the prior written approval of the company representative.

**1.0 PROJECT MANAGEMENT**

**2.0 ENGINEERING**

**3.0 FABRICATION/MANUFACTURING**

**4.0 STORAGE**

**5.0 LOADOUT**

**6.0 CONTRACTOR'S SPREAD**

**7.0 ALTERNATIVE CONTRACTOR'S SPREAD**

Company Approval is required for use of alternate Contractor's Spread. Contractor shall guarantee the availability of the alternative Contractor's Spread, as necessary to meet the Milestone Schedule as outlined in Exhibit 11.



Maritime Link CCI IR-34 Attachment 2 REDACTED

**CCI IR-34 Attachment 2 has been removed due to confidentiality.**

Maritime Link CCI IR-34 Attachment 3 REDACTED

**CCI IR-34 Attachment 3 has been removed due to confidentiality.**

Maritime Link CCI IR-34 Attachment 4 REDACTED

**CCI IR-34 Attachment 4 has been removed due to confidentiality.**

Maritime Link CCI IR-34 Attachment 5 REDACTED

**CCI IR-34 Attachment 5 has been removed due to confidentiality.**

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1 **Request IR-35:**

2  
3 **With respect to the expected availability of the Maritime Link, in particular,**

4  
5 **(a) the response to IR-5, to which NSPML have responded in (b) that the repair times**  
6 **for subsea cables could be in the range of 2-8 months and in (d-f) that the**  
7 **availability target is presently 95-97 percent and that their forecasts do not include**  
8 **any projected major cable failures and with respect**

9  
10 **(b) to the responses given to file M-5 (Morrison Park Advisors), IR-5, and M-5, IR-8.**

11  
12 **Please supply the calculation of availability of the Maritime Link that NSPML has**  
13 **performed, including:**

14  
15 **(a) What maintenance periods for planned outages have NSPML used in their**  
16 **calculation?**

17  
18 **(b) What repair times for unplanned outages have NSPML used in their calculation?**

19  
20 **(c) What failure rates NSPML have used in their calculation**

21  
22 **(d) What length of time for changing between bipolar and monopolar operation have**  
23 **NSPML used in their calculation?**

24  
25 **(e) The sources of the above data?**

26  
27 **(f) What is the calculated availability of the Maritime Link as a bipolar system?**

28  
29 **(g) What is the calculated availability of the Maritime Link as a monopolar system?**

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1 **(h) How do calculations indicate that these would change over the 50 year life of the**  
2 **cable?**

3  
4 Response IR-35:

5  
6 (a-h) The expected availability of the Maritime Link is based on specified design requirements  
7 and historical performance data.

8  
9 The design of the VSC converter incorporates redundant IGBT valves such that the  
10 system can continue to perform at full load while experiencing some valve failures. The  
11 level of redundancy built into the design, in conjunction with predicted valve failure  
12 rates, allows the supplier to design the converters to high reliability levels. NSPML has  
13 specified that the converter be designed with sufficient redundancy to guarantee a Forced  
14 Energy Unavailability Rate of less than 1.0 percent, a Scheduled Energy Unavailability  
15 rate of less than 1.5 percent and a total Energy Availability rate greater than 98 percent.  
16 NSPML has also specified that the total number of ‘pole’ force outages shall be less than  
17 4 per year and that the total number of ‘bi-pole’ forced outages shall be less than 1 per 10  
18 years. The converter suppliers will be required to design their systems with sufficient  
19 built in redundancy to guarantee these values are met.

20  
21 NSPML has presumed switching from bi-pole to mono-pole to be within the  
22 unavailability percentages as the transfer will be automated and instantaneous. Switching  
23 to place the second cable into return path mode will be through the use of motorized  
24 switching and would be complete within hours but does not disrupt mono-pole operation  
25 either during this period.

26  
27 All scheduled maintenance activities on the cable and overhead HVdc lines will be  
28 planned to coincide with converter maintenance periods. Scheduled maintenance is  
29 included within the 1.5 percent Scheduled Energy Unavailability requirement noted. The  
30 converter will be designed such that maintenance can be performed on one pole while the

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1 other is still in service. During scheduled maintenance periods the converter will operate  
2 in monopole mode switched to metallic return.

3  
4 Sustained forced outages on overhead transmission lines are infrequent and design life  
5 will be a 50 year return period with no major failures. Fault locating monitors will be  
6 installed in the system protection to ensure that any potential faults can be located and  
7 responded to quickly.

8  
9 The design of the cable and installation campaign will contain specific measures aimed at  
10 reducing the likelihood of a failure resulting from design, manufacturing, handling,  
11 installation, protection or operation of the cables. The purpose of the attention to each of  
12 these stages is to reduce the likelihood of any failure mechanism through the entire life of  
13 the cable, however accidents occur and plans to repair the cable will be based upon local  
14 conditions, industry standards and manufacturers recommendations. Cable faults are also  
15 rare. NSPML will have spare cable and jointing materials in spare parts inventory to  
16 minimize downtime in such a circumstance. In the event of a single cable failure the  
17 system will be capable of operating in a monopole mode with sea return. Since NSPML  
18 is planning to ensure the cable is protected from risks and warranty periods will cover  
19 manufacturer's installation risks, we have not modeled any failure of cables requiring  
20 recovery of the cable from the seabed through the life of the cable.

21  
22 NSPML will retain emergency repair procedures as part of a risk management plan,  
23 similar to environmental and safety management, which is aimed at being prepared in the  
24 unlikely event of a failure.

25  
26 For assessment of the implications of a failure, numerically the 2-8 month repair time for  
27 a cable failure is based upon a suitable vessel availability and a weather window that will  
28 allow minimal delays to complete the work economically. The vessel must be secured  
29 and fitted with sufficient equipment to recover the cable from the depth where the failure  
30 is located, travel to the Cabot Strait, complete the repair and reposition the cable.

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1 Recovery time would be approximately one month to equip the vessel and travel to site,  
2 and actual repair time would be approximately one week (the minimum two months  
3 would include variance in the vessel preparation and repair times). The longer period of  
4 up to 8 months would be based upon tight vessel availability or a failure occurring late in  
5 the fall with an early winter setting in, preventing repair from occurring until the spring  
6 when ice pack has cleared sufficiently. For illustrative purposes only, a 2 month cable  
7 outage, even if it occurred once in ten years, would reduce the 10 year average  
8 availability from 98 percent to 97.4 percent, and one 8 month repair in 50 years would  
9 reduce the average availability from 98 percent to 96.3 percent. In both cases, the lower  
10 availability is the result of the mathematical reduction of 2/12<sup>th</sup> and 8/12<sup>th</sup> of one cable for  
11 one year in each respective scenario.

12  
13 The combined availability of the converters at 98 percent and a system designed and  
14 constructed to achieve a 50 year life without failure should comfortably deliver reliability  
15 in excess of the 95-97 percent conceptual design estimate without deterioration.

16  
17 Please refer to SBA IR-371 for historical performance data of HVdc Systems.



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1 **Request IR-36:**

2  
3 **With respect to the response to IR-16, which related to in line cable joints of the submarine**  
4 **cable system, NSPML stated that they will endeavor to minimize the number of field joints**  
5 **and assess the location of joints in the lay to avoid obstacles such as deeper portions of the**  
6 **placement:**

7  
8 (a) **What is the maximum depth at which joints would be laid?**

9  
10 (b) **Is there safe sea room in the shipping lanes, weather windows, passive tide flows and**  
11 **time to have the cable ship that carries the second load stationary whilst the first**  
12 **cable is picked up and the rigid sea joint assembled to the second length?**

13  
14 (c) **How will the rigid joint be lowered from the ship without risking disturbing the**  
15 **conductor connection, waterproof layers, hand-assembled insulation and armor**  
16 **wire clamps?**

17  
18 **Response IR-36:**

19  
20 (a) Currently, the proponents have offered options which require no joints being installed, or  
21 a single joint which would be probably installed at a depth of between 120-150m. The  
22 design of the joints is required to be able to be installed at any point along the route if  
23 they are part of a repair scenario.

24  
25 (b) This is not required as presently planned; the ship that carries the second load is the same  
26 ship that picks up the first cable. The vessel will hold station on DP (Dynamic  
27 Positioning). The operation will occur when a suitable weather window is identified.

28  
29 (c) The exact procedure will depend upon the equipment being used by the successful  
30 proponent and will take into account the connection design. Care will have to be taken

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- 1 ensure the joint is not stressed through excessive bending and abrasion. The proponents
- 2 must have a demonstrated history of performing similar work.

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1 **Request IR-37:**

2

3 **With respect to the response to IR-16, NSPML with regard to the number of installation**  
4 **campaigns and the response to IR-5, which related to the expected availability of the**  
5 **Maritime Link, NSPML have responded in (b) that the repair times for subsea cables could**  
6 **be in the range of 2-8 months and cite such factors as suitable weather conditions:**

7

8 **(a) Have NSPML taken into account that factors such as suitable weather conditions**  
9 **could also affect the installation schedule?**

10

11 **(b) Have contingencies have been included for the cost of the very considerable delays**  
12 **that can occur due to delays in subsea cable manufacture, laying and**  
13 **commissioning?**

14

15 **(c) Will all the costs of delays be taken within a turnkey supply and install contract?**

16

17 **Response IR-37:**

18

19 (a) Yes. NSPML has assessed each installation vessel proposed for potential weather related  
20 delays as part of the schedule and risk assessment. NSPML plans for the cable to be laid  
21 in the favorable weather season (May to October) which was selected based upon  
22 weather related and other risks as part of a successful project execution plan

23

24 (b) Yes.

25

26 (c) The cable proposals indicate that the proponents are not willing to take all weather risk in  
27 their lump sum price, but there is an intention to negotiate a reduced day rate for weather  
28 standby. With NS Power fuel and energy procurement processes, the FAM requires  
29 RFPs, bid proposals, analysis and other supporting documentation to be collected and  
30 made available for UARB and intervenor review after completion of the process.

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1 NSPML anticipates a similar process in relation to significant contracts such as the cable  
2 supply contract.

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1 **Request IR-38:**

2

3 **With respect to the response to IR-26 which related to the design of the submarine cable**  
4 **system:**

5

6 **Has NSPML required proponents to consider the transient voltage rise due to voltage**  
7 **collapse following cable failure that travels along the polymeric oversheath and risks**  
8 **puncturing it?**

9

10 Response IR-38:

11

12 The proponents' designs have addressed concerns with limiting the potential voltage rise in the  
13 polymeric oversheath as well as the metallic sheath during a cable failure event.

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1 **Request IR-39:**

2

3 **With respect to the response to IR-26 which stated that the successful cable proponent will**  
4 **be required to work with the successful convertor station proponent to establish**  
5 **requirements for a fully integrated system:**

6

7 **Has NSPML considered the magnitude and cost of the power losses in the cable system?**

8

9 Response IR-39:

10

11 Yes, NSPML assesses losses and replacement energy costs as part of the design evaluation. The  
12 power losses in the cable are included in the total evaluation.

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1 **Request IR-40:**

2

3 **With respect to page 44, Line 13 of the Application which states that “proponents have the**  
4 **option to supply proposals for either MI or XLPE insulated cables”:**

5

6 **Would NSPML accept MI cables using the newer hybrid subsea cable insulation that uses**  
7 **polypropylene laminate tape (PPL) or MI cables insulation using the traditional paper tape**  
8 **insulation?**

9

10 Response IR-40:

11

12 NSPML would consider such designs if the proponent could show a history of installed cables  
13 using such insulation designs. The proponent would also have to have such designs meet the type  
14 test requirements as outlined in Electra No. 189 and Electra No. 218 articles. No proponents have  
15 offered PPL at this time.

16 These references contain, respectively:

17 Electra Article No. 189 – Recommendations for Tests of Power Transmission DC Cables for  
18 a Rated Voltage up to 800kV

19 Recommendations of a technical working group for routine and type tests associated with  
20 paper insulated, whether mass impregnated, pre-impregnated, oil-filled or gas pressure.

21 Electra Article No. 218 – Addendum to Recommendations for Tests of Power Transmission  
22 DC Cables for a Rated Voltage up to 800kV

23 Recommendations of a technical working group as an extension to article No. 189 and  
24 introducing the concept of testing cables under conditions simulating actual operating  
25 conditions such as at high and low ambient temperatures.

26

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1 **Request IR-41:**

2

3 **With respect to page 59 line 10 of the Application which states that the “Land-sea**  
4 **transition sites at the seashore will connect the underground cables to the submarine**  
5 **cables, and anchor the submarine cables to land”, please advise if NSPML would accept:**

6

7 **(a) Different cable insulation types for the land and subsea cables?**

8

9 **(b) Different cable conductor sizes for the land and subsea cables?**

10

11 **Response IR-41:**

12

13 **(a) Yes.**

14

15 **(b) Yes.**



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1 **Request IR-42:**

2  
3 **Preamble Re Section 1.2 of the Application (Exhibit M-2):**

4  
5 **The East West Interconnector crossing the Irish Sea was recently completed. The East**  
6 **West Interconnector and the Maritime Link are both 500MW and 200kV DC with**  
7 **converter stations, submarine cables and overland transmission. The East West**  
8 **Interconnector is comprised of 186 km of submarine cable on the seabed from the coast of**  
9 **north Dublin, crossing the Irish Sea to North Wales, with total land cable routes of 75 km.**  
10 **The 600 million euro East West Interconnector Project was developed by EirGrid, the**  
11 **independent electricity transmission system operator in the Republic of Ireland, and has a**  
12 **capacity to transfer 500 MW of electricity between Ireland and Wales. It appears to be**  
13 **depicted on Figure 1-1 of the Application and is mentioned in Figure 3-6 on page 69.**

14  
15 **With respect to the similarity between the Maritime Link project and the East West**  
16 **Interconnector, which is mentioned in Figure 3-6 in page 69, Line1 of the Application, and**  
17 **in page 44, line 9, of the Application, please advise:**

- 18  
19 (a) **Whether the East West Interconnector was one of those referred to in NSPML's**  
20 **response to CCI IR-25, in which NSPML state that they had visited some of the**  
21 **project sites mentioned (presumably those mentioned in Figure 3-6 in page 69,**  
22 **Line1 of the application) and has established industry contacts on similar Projects?**  
23  
24 (b) **When the East West Interconnector went into commercial service and provide an**  
25 **update on the service experience of this apparently similar link?**  
26  
27 (c) **Whether NSPML are aware of the possible telephone noise interference which**  
28 **caused the commercial operation of the East West Interconnector to be deferred?**

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- 1 **(d) Whether NSPML have established whether a similar problem could occur with the**  
2 **Maritime Link?**  
3
- 4 **(e) What actions have NSPML taken to eliminate or mitigate this?**  
5
- 6 **(f) Whether NSPML are aware of the repairs to the fiber optic cable approximately**  
7 **3km off the Welsh Coast?**  
8
- 9 **(g) Whether NSPML have established whether a similar problem could occur with the**  
10 **Maritime Link?**  
11
- 12 **(h) What actions have NSPML taken to eliminate or mitigate this?**  
13
- 14 **(i) Whether NSPML are aware of the repairs to one of the land cables in Wales?**  
15
- 16 **(j) Whether NSPML have established whether a similar problem could occur with the**  
17 **Maritime Link?**  
18
- 19 **(k) What actions have NSPML taken to eliminate or mitigate this?**  
20

21 **Reference to the above issues can be obtained from <http://www.eirgrid.com/eastwest/news/>**  
22 **(accessed March 18, 2013).**  
23

24 **Response IR-42:**  
25

26 **(a) Yes.**  
27

28 **(b-k) The EirGrid East West Interconnector began commercial operation on December 21,**  
29 **2012. NSPML is aware of the references made and does not expect a similar occurrence**  
30 **due to the proximity of DC cables to telecom in the Maritime Link. The Maritime Link**

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1 has been specifically routed to avoid telecom cables. There is one old, abandoned  
2 telegraph cable to which the Maritime Link will be adjacent, or cross. NSPML has taken  
3 steps to locate the Maritime Link away from existing cables and will not traverse any  
4 operational fibre or telecom lines. Public information about the EirGrid East West  
5 Interconnector is available at the website noted in the question.

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1 **Request IR-43:**

2  
3 **With respect to the similarity between the Maritime Link project and the East West**  
4 **Interconnector which is mentioned in Figure 3-6 in page 69, Line1 of the Application and**  
5 **in page 44, line 9, of the Application, and the reported cost of the East West Interconnector**  
6 **of €600 Million which was given by EIRGRID and available**  
7 **on [http://www.eirgrid.com/media/Opening%20of%20EirGrid%20East%20West%20Inter](http://www.eirgrid.com/media/Opening%20of%20EirGrid%20East%20West%20Interconnector.pdf)**  
8 **[connector.pdf](http://www.eirgrid.com/media/Opening%20of%20EirGrid%20East%20West%20Interconnector.pdf) (accessed March 18, 2013):**

9  
10 **(a) Please compare and contrast the two projects in technical detail?**

11  
12 **(b) Please describe why the Maritime Link cost differs from that of the East West**  
13 **Interconnector?**

14  
15 **Response IR-43:**

16  
17 The East–West Interconnector is a submarine and subsoil power cable project for connecting the  
18 UK and Irish electricity markets. The project is being developed by the Irish national grid  
19 operator EirGrid.

- 20
- 21 • The East–West Interconnector will have a total length of 261 km, of which 186 km is  
22 submarine cable and 75 km is subsoil cable.
  - 23
  - 24 • The interconnection will use  $\pm 200$  kV HVDC Light cables with a capacity of 500 MW  
25
  - 26 • The converter technology is VSC symmetric monopole.  
27
  - 28 • Cable system is XLPE.  
29
  - 30 • The cables and converter stations are provided by ABB.
-

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1 |  
2 • NSPML understands the project was sanctioned during economic downturn, funding was  
3 provided for economic development purposes by the European Union at a level of  
4 approximately EU \$100 M. Construction is complete and project is in turn-over to  
5 operations ownership.

6  
7 By contrast, the Maritime Link is a submarine and overhead DC project for connecting the island  
8 of Newfoundland and Nova Scotia electricity grids and enabling the flow of renewable energy to  
9 Nova Scotia to address renewable and emission standards.

10  
11 • The Maritime Link Project will have a total length of approximately 530 km, of which  
12 180km is submarine cable, less than 50km overland transmission in Nova Scotia and  
13 approximately 300km of overland transmission in Newfoundland.

14 ○ The interconnection will use +/-200 to 250 kV High Voltage Direct Current  
15 (HVDC) transmission cables with a capacity of 500 MW.

16  
17 • The cables and converter stations are currently in competitive procurement processes to  
18 determine the selected supplier(s).

19 ○ Converter technology will be VSC bi-pole capable of mono-pole operation.

20 ○ Cable technology will be either MI or XLPE.

21  
22 • Construction will commence in 2013 and it is expected to be fully operational in 2017.

23  
24 • The support of the Government of Canada via a loan guarantee will directly benefit Nova  
25 Scotia customers and reduce the cost of the Maritime Link Project by more than \$250 million  
26 (more than \$100 million on a net present value basis).

27  
28 • The main cost differences are potentially associated with additional overland  
29 transmission facilities, terrestrial or soil conditions resulting in design differences,

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1 grounding sites, interconnecting system requirements, labour costs, commodity and  
2 exchange rates, supply and demand circumstances when EirGrid was sanctioned.

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1 **Request IR-44:**

2  
3 **With respect to NSPML's response to CCI IR-25, in which NSPML state that they had**  
4 **visited some of the project sites mentioned (presumably those mentioned in Figure 3-6 in**  
5 **page 69, Line 1 of the application) and has established industry contacts on similar**  
6 **Projects, please provide details of what DC project has achieved a significant length of**  
7 **satisfactory service time and how similar is it to the proposed application?**

8  
9 Response IR-44:

10  
11 NSPML has had contact with a number of projects directly and also engaged industry consultants  
12 who have experience in a number of other projects and industry forums, such as Cigre working  
13 committees. These contacts were intended to gather a broad range of information on projects that  
14 had similarities in design, construction and operation to the Maritime Link.

15  
16 These projects include:

- 17  
18 • East-West Interconnect Project (Ireland – Wales) – 200 kV XLPE in 2013  
19 • Borwin 1 Project (Germany) – 150 kV XLPE in 2009  
20 • Cross Sound Project (Connecticut –Long Island) – 150 kV XLPE in 2002  
21 • Transbay Project (California) – 400 kV XLPE in 2005

22  
23 Figure 3-6 on Page 69 of the Application is a list of all known VSC projects, not all HVDC  
24 projects. Only projects up to the East West Interconnector are operational. Others are still in  
25 development. The in-service date for each project is listed in the table. NSPML considers all of  
26 the VSC projects to be similar to the Maritime Link in that they utilize the IGBT-based  
27 technology in various configurations. As can be seen in the table, the oldest known system was  
28 placed in service in 1997 with Gotland being the first commercial scale project in 1999.

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1 The scale (MW capacity) and voltage ratings have continued to increase with the most  
2 pronounced changes to increase the operating voltage to  $\pm 150$  kV dc in the Murray Link and  
3 Cross Sound projects commissioned in 2002.

4  
5 In 2010, the TransBay project was commissioned with a  $\pm 200$  kV dc application and the same  
6 year, the Caprivi Link achieved 350 kV dc in monopole configuration with over 900 km of  
7 overhead HVDC line.

8  
9 NSPML has monitored Cigre reports and supplier published data on performance, please refer to  
10 Cigre B4 203 2010 HVDC VSC (HVDC light) Transmission – Operating Experiences. This  
11 Cigre reference is a report of the operating experiences for two HVDC cable systems operating  
12 at 150kV installed in 2002. The cables are connected to VSC converter systems and located in  
13 Australia & the United States.