

MARINE RENEWABLE-ELECTRICITY PERMIT

Province of Nova Scotia

Marine Renewable-energy Act

Identity and address of permit holder:

Big Moon Canada Corporation 1959 Upper Water St. Suite 1502 Halifax, Nova Scotia B3J 3N2

Project description:

Big Moon Canada Corporation (BMP) has proposed to construct a tidal power demonstration facility in the Minas Passage, along the north shore of the Blomidon Peninsula, Kings County, Nova Scotia. This system will include a temporary 100 kW prototype installation and a permanent 5 MW project, installed in phases. BMP's tidal power system consists of two main components: a novel land-based generator assembly and a unique unmanned, passive barge. The barge is connected to the generator by a high strength rope in such a manner that is submerged below the drafts of local boat traffic. Power is generated as the ebb and flood tides flow, causing the barge to move away from the generator and cause the generator to turn for generating electrical power.

The generator assembly area will be on land along the north side of the Blomidon Peninsula which rises to an elevation of 130-150 m above the low water mark. The Barge operation area will extend 5 nautical miles in each direction originating from the generator assembly.



Province of Nova Scotia Marine Renewable-energy Act

PERMIT HOLDER:

Big Moon Canada Corporation

PERMIT NUMBER: <u>2018-002</u>

EFFECTIVE DATE: April 5, 2018

EXPIRY DATE: June 5, 2019

Pursuant to Section 38 of the *Marine Renewable-energy Act*, as amended from time to time, a Permit granted to the Permit Holder is subject to the Terms and Conditions attached to and forming part of this Permit, for the following activity:

<u>Construction, installation, operation and decommissioning of one unconnected</u> <u>generator at Big Moon Canada Corporation Permit Area within the Fundy Area of</u> <u>Marine Renewable-electricity Priority.</u>

Geoff MacLellan Minister

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Date Signed



Province of Nova Scotia Marine Renewable-energy Act

| PERMIT HOLDER: | Big Moon Canada Corporation |
|-----------------|-----------------------------|
| PERMIT TYPE: | Unconnected Generator |
| PERMIT NUMBER: | <u>2018-002</u> |
| EFFECTIVE DATE: | <u>April 5, 2018</u> |
| EXPIRY DATE: | <u>June 5, 2019</u> |

Terms and Conditions of Permit Approval

This approval is subject to the following conditions and obtaining all other necessary approvals, permits or authorizations required by municipal, provincial and federal acts, regulations and by-laws before constructing, installing, operating and decommissioning any device in the Big Moon Canada Corporation Permit Area.

The following schedules are attached to and form part of this Permit:

- Schedule "A" Survey of Big Moon Canada Corporation Permit Area;
- Schedule "B" The technical description submitted by Big Moon Canada Corporation;

Definitions:

"Application Document" means the marine renewable energy permit application submitted by the Permit Holder to the Nova Scotia Department of Energy and deemed complete on February 19, 2018;

"Big Moon Canada Corporation Permit Area or Permit Area" means the area of submerged land for which the specific location has been determined by survey by the Permit Holder as described in the Application Document, and is contained in Schedule A of this Permit;

"Decommissioning, Abandonment and Rehabilitation Plan" means the decommissioning, abandonment and rehabilitation plan required by subsection 44(2) of the *Marine Renewable-energy Act* and provided to the Minister in accordance with Sections 19 and 20 of the *Marine Renewable-energy General Regulations*;

"Deployment" means the placement of a device or associated equipment in position ready for use;

"Device(s)" means a tidal in-stream energy conversion device that is intended to generate electricity from in-stream tidal energy;

"Effective Date" means the date that this Permit is effective, as noted at the head of this document;

"Fee Regulations" means the Marine Renewable-energy Fees Regulations;

"Program Administrator" means a representative of the Nova Scotia Department of Energy who has been assigned to receive information on the Department's behalf with respect to this Permit;

"Minister" means the Minister of Energy for the Province of Nova Scotia;

"MReA" means the Marine Renewable-energy Act;

"Permit Holder" means Big Moon Canada Corporation;

"Program Administrator" means a representative of the Nova Scotia Department of Energy who has been assigned to receive information on the Department's behalf with respect to this Permit; "Prototype Assembly" means the generator(s) described in the Technical Description, together with all protective and other associated equipment and improvements as may be modified from time to time pursuant to the terms of this Permit;

"Regulations" means the Marine Renewable-energy General Regulations;

"Risk Management Plan" means written plan prepared in accordance with Section 18 of the *Marine Renewable-energy General Regulations* for identifying, assessing, managing and mitigating risks associated with actions to be carried on under a permit;

"Socio-economic Matters" include, but are not limited to, issues relating to employment, job-creation, and community relations;

"Technical Description" means the description contained in Schedule B of this Permit;

1.0 Scope of Approval

- 1.1 The Permit approval for the project is limited to the project as described in the Application Document. Any proposal for modification, relocation or expansion of any aspect of the project from that proposed in the Application Document shall be submitted in writing to the Minister for approval in accordance with Section 46 of the MReA. Failure to do so may result in the suspension or revocation of this Permit.
- 1.2 The Permit approval for the project is limited to the technology as described in the Application Document. Any proposal for modification of the project from that proposed in the Application Document shall be submitted in writing to the Minister for approval in accordance with Section 46 of the MReA. Failure to do so may result in the suspension or revocation of this Permit.
- 1.3 The Big Moon Canada Corporation Permit Area is 3426 hectares and is described in the Application Document and Schedule A of this Permit.
- 1.4 Nothing contained in this Permit shall remove any process, requirement, or obligation on the Permit Holder to comply with the MReA, the Regulations and the Fees Regulations.

1.5 In the event of a conflict between the terms and conditions of this Permit and the MReA, Regulations, or Fee Regulations (collectively referred to as the "MReA regime"), the MReA regime shall prevail.

2.0 General Terms and Conditions

- 2.1 In accordance with Section 45 of the MReA, the Permit Holder shall not transfer, sell, lease, assign or otherwise dispose of the Permit without the written consent of the Minister.
- 2.2 In accordance with Section 46 of the MReA, the Minister may, upon receiving an application from the Permit Holder, modify, amend, or add conditions to this Permit.
- 2.3 In accordance with Section 42 of the MReA, the Minister may, upon receiving an application from the Permit Holder, extend this Permit for one or more terms, as long as the aggregate of the initial term of the Permit and any extensions of the Permit not exceed ten (10) years pursuant to Section 11 of the Regulations.
- 2.4 If the Minister determines that there has been non-compliance with any or all terms and conditions in this Permit, or the MReA regime, the Minister may suspend or revoke the Permit pursuant to Sections 48 of the MReA.
- 2.5 Despite an expiry, suspension, or revocation of this Permit, the Permit Holder remains subject to the penalty provisions and any continuing obligations as stated in the MReA and Regulations.
- 2.6 The Permit Holder shall ensure that this Permit, or a copy, is kept at the Nova Scotia offices of the Permit Holder at all times and that personnel directly involved in the maintenance and operation of the cables and associated equipment are made fully aware of the terms and conditions pertaining to this Permit and the MReA regime.

3.0 Rent Payments

3.1 The Permit Holder shall pay the first annual rent payment of \$1849.32, no later than sixty (60) days after the Effective Date, and \$1068.49 on or before January 31, 2019. The rent payment is calculated on the basis of a

calendar year and is equal to two thousand five hundred dollars (\$2,500) if the term is one (1) year or longer.

- 3.2 Rent payments shall be made payable to the Minister of Finance and are non-refundable.
- 3.3 If rent is not paid on or before the deadline for payment, the Permit Holder shall pay an additional late fee in an amount equivalent to 10% of the amount that was not paid on or before the deadline.
- 3.4 The Permit Holder shall notify the Minister in writing if they believe their rental fees are changing and submit to the Minister updated project information sixty (60) calendar days before the next year's rent payment is due.

4.0 Operating and Decommissioning

- 4.1 This Permit is valid for a term of one (1) year and 8 weeks from the Effective Date of this Permit, as noted at the head of this document.
- 4.2 The Permit Holder must submit a decommissioning, abandonment and rehabilitation plan to the Minister for approval thirty (30) days prior to constructing or installing a generator, cable or other equipment or structure in the Big Moon Canada Corporation Permit Area.

5.0 Environmental Monitoring Plan

- 5.1 In accordance with Section 38(2) of the MReA, the Permit Holder shall not install any generator, including any cable or any other equipment or structure owned by the permit holder and used or intended to be used with the generator, before submitting an Environmental Monitoring Plan (EMP). The EMP shall be submitted in writing to the Minister for approval thirty (30) days prior to Deployment.
- 5.2 The EMP shall contain all the information listed in Section 16 of the Regulations.
- 5.3 The Permit Holder shall update and revise the EMP as required by the Minister throughout the term of this Permit. Any amendment shall be

submitted in writing to the Minister in accordance with Section 17 of the Regulations.

- 5.4 The Permit Holder shall comply with the requirements prescribed by the approved EMP.
- 5.5 Environmental effects monitoring reports shall be submitted in writing to the Minister at a schedule to be determined by the Nova Scotia Department of Energy following the obtainment of all other necessary environmental approvals. Failure to comply with the schedule may result in the suspension or revocation of this Permit.
- 5.6 Once construction of the Prototype Assembly begins, the Permit Holder shall notify the Program Administrator and the Department of Fisheries and Oceans Canada at 1-800-565-1633, within twenty-four (24) hours in the event of observed serious harm to marine mammals, fish, marine invertebrates, and marine birds throughout the term of this Permit.
- 5.7 Prior to construction of the Prototype Assembly, the Permit Holder shall provide a written plan for bird strike avoidance to the Program Administrator and the Director of the Wildlife Division at the Department of Natural Resources at <u>Bob.Petrie@novascotia.ca</u> for the approval of the Minister of Natural Resources. The plan shall include monitoring and mitigation measures to avoid or minimize bird strikes on the rope line assembly.
- 5.8 The Permit Holder shall comply with the requirements prescribed by the approved bird strike avoidance plan noted above.

6.0 Engagement Requirements

- 6.1 Thirty (30) days prior to Deployment the Permit Holder must submit to the Minister for approval, an engagement plan outlining ongoing and proposed engagement and discussion activities with the Mi'kmaq of Nova Scotia. The plan shall include a description and general schedule for these activities. The plan must be updated and resubmitted annually to the Minister for approval on or before January 31st throughout the term of this Permit.
- 6.2 Thirty (30) days prior to Deployment the Permit Holder must submit to the Minister for approval, a stakeholder communication and engagement plan outlining ongoing and proposed engagement and discussion activities. The plan shall include a description and general schedule for these activities.

The plan must be updated and resubmitted annually to the Minister for approval on or before January 31st, throughout the term of this Permit.

6.3 The Permit Holder shall support the Province of Nova Scotia in its future and ongoing consultation processes with the Mi'kmaq of Nova Scotia, share necessary information with the Mi'kmaq of Nova Scotia, and consider implementing mitigation and accommodation measures to address any issues raised through consultation.

7.0 Reporting Requirements

- 7.1 The Permit Holder shall notify the Program Administrator at a minimum, thirty (30) days prior to the Deployment or testing of Device(s) or equipment related to the project.
- 7.2 In accordance with Section 13 of the Regulations, the Permit Holder shall submit bi-annual written reports ("Activity Reports") to the Minister detailing the activities carried on under the authority of the Permit :
 - a. no later than July 31 of each year that the Permit is valid, for activities carried on between January 1 and June 30; and
 - b. no later than January 31 of each year that the Permit is valid, for activities carried on between July 1 and December 31.

At a minimum, the Activity Reports shall include:

- a. A detailed and up-to-date project schedule;
- b. Progress updates on the activities outlined in the project schedule;
- c. A detailed and up-to-date procurement schedule;
- d. Any amended procurement deadlines;
- e. A summary of any entities procured for goods/services;
- f. Actual financial statements related to procurement, construction, operations, and monitoring activities;
- g. Data relating to socio-economic matters, and
- h. Any changes in the corporate governance structure of the Permit Holder.
- 7.3 The Permit Holder must notify the Program Administrator within ten (10) business days upon reaching the following milestone(s):
 - a. Receipt of any federal, provincial, or municipal regulatory approvals;
 - b. Approval of additional funding or grants;
 - c. Issuance of any manufacturing or fabrication contracts;
 - d. Installation of a generator and any cable or other equipment or structure used or intended to be used with a generator;

- e. Commencement of decommissioning activities; and
- f. Completion of decommissioning and rehabilitation activities
- 7.4 The Permit Holder shall notify the Program Administrator at least one (1) day prior to any press release related to the activities authorized under the Permit.
- 7.5 The Permit Holder shall provide baseline, tidal resource and environmental monitoring data acquired, developed, or created during the term of this permit to the Nova Scotia Department of Energy upon request by the Minister. Such data may be disclosed by the Nova Scotia Department of Energy in accordance with the MReA and Regulations.
- 7.6 The Permit Holder shall submit a written report to the Program Administrator thirty (30) days prior to the conclusion of the Permit term, summarizing the activities authorized under the Permit and any successes or lessons learned.

8.0 Records Management

- 8.1 The record of data relating to the activities authorized under this Permit, including all books, records, accounts, documents and information related to those activities, must be accessible from an office located in the Province in accordance with Section 27 of the Regulations.
- 8.2 The Permit Holder shall ensure that the books, records, accounts, documents and information remain accessible until at least five (5) years after the date the permit expires in accordance with Section 29 of the Regulations.

9.0 Incident Reporting

- 9.1 The Permit Holder shall notify the Program Administrator of any incident or near-miss, including information relating to the incident or near-miss, as soon as reasonably practicable but no later than twenty-four (24) hours after the incident or near-miss occurred.
- 9.2 The Permit Holder shall notify the Program Administrator within twentyfour (24) hours in advance of any press release or press-conference related to an incident or near-miss.

- 9.3 The Permit Holder shall ensure that:
 - a. Any incident or near-miss is investigated, its root cause and causal factors identified where possible corrective action taken where applicable; and
 - b. Any incident or near-miss is investigated, its root cause, causal factors and corrective action taken must be submitted in writing to the Program Administrator no later than thirty (30) days after the day on which the incident or near-miss occurred.

10.0 Risk Management Plan

- 10.1 The Permit Holder's Risk Management Plan filed as part of the Application Document, shall be updated and resubmitted annually by the Permit Holder to the Minister on or before January 31, throughout the term of the Permit.
- 10.2 The Risk Management Plan shall contain all the information listed in Section 18 of the Regulations.

11.0 Decommissioning, Abandonment and Rehabilitation Plan

- 11.1 In accordance with Section 19 of the Regulations, the Permit Holder shall not construct or install a generator, cable or other equipment or structure in the Big Moon Canada Corporation Permit Area until the Minister has approved the Decommissioning, Abandonment and Rehabilitation Plan for the Permit Area. The Decommissioning, Abandonment and Rehabilitation Plan shall be submitted in writing to the Minister for approval no later than thirty (30) days prior to Deployment.
- 11.2 The Decommissioning, Abandonment and Rehabilitation Plan shall contain all the information listed in Section 20 of the Regulations.
- 11.3 The Permit Holder must update and revise the Decommissioning, Abandonment and Rehabilitation Plan as required by the Minister throughout the life of the project. Any amendment shall be submitted to the Minister in accordance with Section 22 of the Regulations.
- 11.4 The Permit Holder shall comply with the prescribed steps to decommission and rehabilitate the Big Moon Canada Corporation Permit Area, as set out in Section 21 of the Regulations.

12.0 Financial Security and Insurance

- 12.1 The Permit Holder shall provide proof of liability insurance to the Minister for approval within sixty (60) days following the Effective Date of the Permit and prior to the commencement of any construction, installation, and operation, decommissioning of a generator and any cables and other equipment or structures intended to be used with the generator.
- 12.2 The Permit Holder shall maintain its insurance coverage in full force and effect for the term of the Permit. At a minimum, the Permit Holder shall maintain environmental impairment liability insurance, commercial general liability insurance and marine insurance coverage on any vessel employed during construction and Deployment of equipment in the Permit Area.
- 12.3 The Permit Holder shall ensure that financial security is provided within sixty days (60) following the Effective Date of the Permit and then annually on or before January 31, through the term of this Permit, in an amount to ensure the complete decommissioning of the project based on the estimated cost of the decommissioning activities described in the approved Decommissioning, Abandonment and Rehabilitation Plan.
- 12.4 The Permit Holder shall ensure that any security provided prior to the commencement of any construction, installation, operation and decommissioning of the activities approved under the Permit are kept in effect throughout the Permit term.
- 12.5 Financial security described in this section shall be in one of the following forms:
 - a. Cheques made payable to the Minister of Finance;
 - b. Government guaranteed bonds, debentures, term deposits, certificates of deposit, trust certificates or investment certificates assigned to the Minister of Finance; or
 - c. Irrevocable letters of credit, irrevocable letters of guarantee, performance bonds or surety bonds in a form acceptable to the Minister.

13.0 Notice to Minister and Program Administrator

13.1 Notice, documents and other information required to be sent to the Minister of the Nova Scotia Department of Energy, shall be in writing and may be served by personal service or fax, addressed as follows: Attention: Minister of Energy

Nova Scotia Department of Energy Joseph Howe Building 1690 Hollis Street Po Box 2664 Halifax, NS B3J 3J9

Phone: (902) 424-4575 Fax: (902) 424-0528

13.2 Notice and/or information required to be sent to the Program Administrator shall be in writing and sent via email to: <u>marinerenewables@novascotia.ca.</u>

14.0 Standards

14.1 The Permit Holder must comply with industry standards for marine renewable energy conversion systems as they exist at the time of the issuance of this Permit and as amended, including but not limited to the International Electrotechnical Commission (IEC) Technical Committee (TC) 114.



MARINE RENEWABLE-ELECTRICITY PERMIT

Province of Nova Scotia

Marine Renewable-energy Act

PERMIT HOLDER:

Big Moon Canada Corporation

PERMIT NUMBER: <u>2018-003</u>

EFFECTIVE DATE: <u>April 5, 2018</u>

EXPIRY DATE: April 5, 2023

Pursuant to Section 38 of the *Marine Renewable-energy Act*, as amended from time to time, a Permit granted to the Permit Holder is subject to the Terms and Conditions attached to and forming part of this Permit, for the following activity:

Construction, installation, operation and decommissioning of five (5) generators on a short-term demonstration basis with an aggregate nameplate capacity of five (5) megawatts at Big Moon Canada Corporation Permit Area within the Fundy Area of Marine Renewable-electricity Priority.

Geoff MacLellan Minister

Date Signed



MARINE RENEWABLE-ELECTRICITY PERMIT

Province of Nova Scotia

Marine Renewable-energy Act

| PERMIT HOLDER: | Big Moon Canada Corporation |
|-----------------|--|
| PERMIT TYPE: | Demonstration Permit (Connected Generator) |
| PERMIT NUMBER: | <u>2018-003</u> |
| EFFECTIVE DATE: | <u>April 5, 2018</u> |
| EXPIRY DATE: | <u>April 5, 2023</u> |

Terms and Conditions of Permit Approval

This approval is subject to the following conditions and obtaining all other necessary approvals, permits or authorizations required by municipal, provincial and federal acts, regulations and by-laws before constructing, installing, operating and decommissioning any device in the Big Moon Canada Corporation Permit Area.

The following schedules are attached to and form part of this Permit:

- Schedule "A" Survey of Big Moon Canada Corporation Permit Area; and
- Schedule "B" The technical description submitted by Big Moon Canada Corporation.

Definitions:

"Aggregate Name Plate Capacity" means the maximum installed capacity permitted under the demonstration permit of the units forming the Generation Facility;

"Application Document" means the marine renewable energy permit application submitted by the Permit Holder to the Nova Scotia Department of Energy and deemed complete on February 19, 2018;

"Big Moon Canada Corporation Permit Area or Permit Area" means the area of submerged land for which the specific location has been determined by survey by the Permit Holder as described in the Application Document and is contained in Schedule A of this Permit;

"Commercial Operation" means the completion of the design, construction and commissioning of at least one (1) device of the Generating Facility, and the Permit Holder has provided written notice to NSPI that they are ready for Commercial Operation. Commercial Operation must be reached by the Final In-Service Date;

"Commercial Operation Date" means the first day of the calendar month following Commercial Operation;

"Decommissioning, Abandonment and Rehabilitation Plan" means the decommissioning, abandonment and rehabilitation plan required by subsection 44(2) of the *Marine Renewable-energy Act* and provided to the Minister in accordance with Sections 19 and 20 of the *Marine Renewable-energy General Regulations*;

"Deployment" means the placement of a device or associated equipment in position ready for use;

"Device(s)" means a tidal in-stream energy conversion device that is intended to generate electricity from in-stream tidal energy;

"Effective Date" means the date that this Permit is effective, as noted at the head of this document;

"Fee Regulations" means the Marine Renewable-energy Fees Regulations;

"Final In-Service Date" shall be three (3) years from the Effective Date;

"Generation Facility" means one or more generators described in the Technical Description that may be phased in before the Final In-Service Date having, in the aggregate, the Aggregate Name Plate Capacity, together with all protective and other associated equipment and improvements as may be modified from time to time pursuant to the terms of this Permit;

"Incremental Energy Rate" means the rate in \$/MWh which is equal to NSPI's cost of generating or purchasing one more MWh of energy from sources other than the Generating Facility as calculated by NSPI averaged over the twelve (12) month period immediately preceding the relevant time;

"Minister" means the Minister of Energy for the Province of Nova Scotia;

"MReA" means the Marine Renewable-energy Act;

"NSPI" means Nova Scotia Power Incorporated;

"Permit Holder" means Big Moon Canada Corporation;

"Program Administrator" means a representative of the Nova Scotia Department of Energy who has been assigned to receive information on the Department's behalf with respect to this Permit;

"Regulations" means the Marine Renewable-energy General Regulations;

"Risk Management Plan" means written plan prepared in accordance with Section 18 of the *Marine Renewable-energy General Regulations* for identifying, assessing, managing and mitigating risks associated with actions to be carried on under a permit;

"Socio-economic Matters" include, but are not limited to, issues relating to employment, job-creation, and community relations;

"Technical Description" means the description contained in Schedule B of this Permit;

1.0 Scope of Approval

- 1.1 The Demonstration Permit approval for the project is limited to the project as described in the Application Document. Any proposal for modification, relocation or expansion of any aspect of the project from that proposed in the Application Document shall be submitted in writing to the Minister for approval in accordance with Section 46 of the MReA. Failure to do so may result in the suspension or revocation of this Permit.
- 1.2 The Demonstration Permit approval for the project is limited to the technology as described in the Application Document. Any proposal for modification of the project from that proposed in the Application Document shall be submitted in writing to the Minister for approval in accordance with Section 46 of the MReA. Failure to do so may result in the suspension or revocation of this Permit.
- **1.3** The Big Moon Canada Corporation Permit Area is 3426 hectares and is described in the Application Document and Schedule A of this Permit.
- 1.4 Nothing contained in this Permit shall remove any process, requirement, or obligation on the Permit Holder to comply with the MReA, the Regulations and the Fees Regulations.
- 1.5 In the event of a conflict between the terms and conditions of this Permit and the MReA, Regulations, or Fee Regulations (collectively referred to as the "MReA regime"), the MReA regime shall prevail.

2.0 General Terms and Conditions

- 2.1 In accordance with Section 45 of the MReA, the Permit Holder shall not transfer, sell, lease, assign or otherwise dispose of the Permit without the written consent of the Minister.
- 2.2 In accordance with Section 46 of the MReA, the Minister may, upon receiving an application from the Permit Holder, modify, amend, or add conditions to this Permit.
- 2.3 Provided always that the Permit Holder maintains compliance with the MReA regime and is not in default of the terms and conditions of the Permit, upon an application being submitted by the Permit Holder, the

Minister shall renew the Permit for one (1) or more terms not exceeding five (5) years each, as long as the aggregate of the initial term of the Demonstration Permit and any renewals of the Demonstration Permit not exceed eighteen (18) years.

- 2.4 If the Minister determines that there has been non-compliance with any or all terms and conditions in this Permit, or the MReA regime, the Minister may suspend or revoke the Permit pursuant to Sections 48 of the MReA.
- 2.5 Despite an expiry, suspension, or revocation of this Permit, the Permit Holder remains subject to the penalty provisions and any continuing obligations as stated in the MReA and Regulations.
- 2.6 The Permit Holder shall ensure that this Permit, or a copy, is kept at the Nova Scotia offices of the Permit Holder at all times and that personnel directly involved in the maintenance and operation of the cables and associated equipment are made fully aware of the terms and conditions pertaining to this Permit and the MReA regime.

3.0 **Power Purchase Agreement**

- 3.1 Energy produced by the Permit Holder will be paid in accordance with the Power Purchase Agreement (PPA) between the Permit Holder and NSPI.
- 3.2 The term of the PPA shall be the earlier of the date on which the Demonstration Permit expires or is revoked and 15 years after the Commercial Operation Date.
- 3.3 The Permit Holder shall be paid an energy payment of \$350.00 per megawatt hour (MWh) of energy generated up to an annual cap of the state that the Incremental Energy Rate above this cap.

4.0 Rent Payments

4.1 The Permit Holder shall pay the first annual rent payment of \$50,686.03, no later than sixty (60) days after the Effective Date, and \$68,520 on or before January 31 of each subsequent year during the term of the Permit. The rent payment is calculated on the basis of a calendar year and is equal to the greater of two thousand five hundred dollars (\$2,500) per megawatt (MW) of installed capacity under the Permit and twenty dollars (\$20.00) per hectare in the Permit Area.

- 4.2 Rent payments shall be made payable to the Minister of Finance and are non-refundable.
- 4.3 If rent is not paid on or before the deadline for payment, the Permit Holder shall pay an additional late fee in an amount equivalent to 10% of the amount that was not paid on or before the deadline.
- 4.4 The Permit Holder shall notify the Minister in writing if they believe their annual rental fees are changing and submit to the Minister updated project information sixty (60) calendar days before the next year's rent payment is due.

5.0 Commercial Operation Date / Final In-Service Date

- 5.1 The Permit Holder shall, within three (3) years of the Effective Date, reach Commercial Operation on the project.
- 5.2 The full Generation Facility as described in the Technical Description shall be constructed and operational within three (3) years of the Effective Date of this Permit. This is also the Final In-Service Date which shall not be extended by the Minister.
- 5.3 This Permit is valid for a term of five (5) years from the Effective Date.

6.0 Environmental Monitoring Plan

- 6.1 In accordance with Section 38(2) of the MReA, the Permit Holder shall not install any generator, including any cable or any other equipment or structure owned by the permit holder and used or intended to be used with the generator, before submitting an Environmental Monitoring Plan (EMP). The EMP shall be submitted in writing to the Minister for approval sixty (60) days prior to Deployment.
- 6.2 The EMP shall contain all the information listed in Section 16 of the Regulations.

- 6.3 The Permit Holder shall update and revise the EMP as required by the Minister throughout the term of this Permit. Any amendment shall be submitted in writing to the Minister in accordance with Section 17 of the Regulations.
- 6.4 The Permit Holder shall comply with the requirements prescribed by the approved EMP.
- 6.5 Environmental effects monitoring reports shall be submitted in writing to the Minister at a schedule to be determined by the Nova Scotia Department of Energy following the obtainment of all other necessary environmental approvals. Failure to comply with the schedule may result in the suspension or revocation of this Permit.
- 6.6 Once construction of the Generation Facility begins, the Permit Holder shall notify the Program Administrator and the Department of Fisheries and Oceans Canada at 1-800-565-1633, within twenty-four (24) hours in the event of observed serious harm to marine mammals, fish, marine invertebrates, and marine birds throughout the term of this Permit.
- 6.7 Prior to construction of the Generation Facility, the Permit Holder shall provide a written plan for bird strike avoidance to the Program Administrator and the Director of the Wildlife Division at the Department of Natural Resources at <u>Bob.Petrie@novascotia.ca</u> for approval of the Minister of Natural Resources. The plan shall include monitoring and mitigation measures to avoid or minimize bird strikes on the rope line assembly.
- 6.8 The Permit Holder shall comply with the requirements prescribed by the approved bird strike avoidance plan noted above.

7.0 Engagement Requirements

- 7.1 Sixty (60) days prior to Deployment the Permit Holder shall submit to the Minister for approval, an engagement plan outlining ongoing and proposed engagement and discussion activities with the Mi'kmaq of Nova Scotia. The plan shall include a description and general schedule for these activities. The plan shall be updated and resubmitted annually to the Minister for approval on or before January 31st throughout the term of this Permit.
- 7.2 Sixty (60) days prior to Deployment the Permit Holder shall submit to the Minister for approval, a stakeholder communication and engagement plan outlining ongoing and proposed engagement and discussion activities. The

plan shall include a description and general schedule for these activities. The plan shall be updated and resubmitted annually to the Minister for approval on or before January 31st, throughout the term of this Permit.

7.3 The Permit Holder shall support the Province of Nova Scotia in its future and ongoing consultation processes with the Mi'kmaq of Nova Scotia, share necessary information with the Mi'kmaq of Nova Scotia, and consider implementing mitigation and accommodation measures to address any issues raised through consultation.

8.0 **Reporting Requirements**

- 8.1 The Permit Holder shall notify the Program Administrator at a minimum, thirty (30) days prior to the Deployment or testing of Device(s) or equipment related to the project.
- 8.2 In accordance with Section 13 of the Regulations, the Permit Holder shall submit bi-annual written reports ("Activity Reports") to the Minister detailing the activities carried on under the authority of the Permit:
 - a. no later than July 31 of each year that the Permit is valid, for activities carried on between January 1 and June 30; and
 - b. no later than January 31 of each year that the Permit is valid, for activities carried on between July 1 and December 31.
- 8.3 At a minimum, the Activity Reports shall include:
 - a. A detailed and up-to-date project schedule;
 - b. Progress updates on the activities outlined in the project schedule;
 - c. A detailed and up-to-date procurement schedule;
 - d. Any amended procurement deadlines;
 - e. A summary of any entities procured for goods/services;
 - f. Actual financial statements related to procurement, construction, operations, and monitoring activities;
 - g. Data relating to socio-economic matters, and
 - h. Any changes in the corporate governance structure of the Permit Holder.
- 8.4 The Permit Holder shall notify the Program Administrator within ten (10) business days upon reaching the following milestone(s):
 - a. Receipt of any federal, provincial, or municipal regulatory approvals;
 - b. Approval of additional funding or grants;

- c. Completion of any NSPI grid interconnection activities;
- d. Connection to the transmission or distribution grid;
- e. Issuance of any manufacturing or fabrication contracts;
- f. Installation of a generator and any cable or other equipment or structure used or intended to be used with a generator;
- g. Reaching Commercial Operation;
- h. Achieving 18% capacity factor;
- i. Achieving capacity factor;
- j. Commencement of decommissioning activities; and
- k. Completion of decommissioning and rehabilitation activities.
- 8.5 The Permit Holder shall notify the Program Administrator at least one (1) day prior to any press release related to the activities authorized under the Permit.
- 8.6 The Permit Holder shall provide baseline, tidal resource and environmental monitoring data acquired, developed, or created during the term of this Permit to the Nova Scotia Department of Energy upon request by the Minister. Such data may be disclosed by the Nova Scotia Department of Energy in accordance with the MReA and Regulations.
- 8.7 The Permit Holder shall submit a written report to the Program Administrator sixty (60) days prior to the conclusion of the Permit term, summarizing the activities authorized under the Permit and any successes or lessons learned. An application for renewal may not be considered by the Minister in the absence of this report.

9.0 Records Management

- 9.1 The record of data relating to the activities authorized under this Permit, including all books, records, accounts, documents and information related to those activities, must be accessible from an office located in the Province in accordance with Section 27 of the Regulations.
- 9.2 The Permit Holder shall ensure that the books, records, accounts, documents and information remain accessible until at least five (5) years after the date the permit expires in accordance with Section 29 of the Regulations.

10.0 Incident Reporting

- 10.1 The Permit Holder shall notify the Program Administrator of any incident or near-miss, including information relating to the incident or near-miss, as soon as reasonably practicable but no later than twenty-four (24) hours after the incident or near-miss occurred.
- 10.2 The Permit Holder shall notify the Program Administrator within twentyfour (24) hours in advance of any press release or press-conference related to an incident or near-miss.
- 10.3 The Permit Holder shall ensure that:
 - a. Any incident or near-miss is investigated, its root cause and causal factors identified where possible corrective action taken where applicable; and
 - b. Any incident or near-miss is investigated, its root cause, causal factors and corrective action taken must be submitted in writing to the Program Administrator no later than thirty (30) days after the day on which the incident or near-miss occurred.

11.0 Risk Management Plan

- 11.1 The Permit Holder's Risk Management Plan filed as part of the Application Document, shall be updated and resubmitted annually by the Permit Holder to the Minister on or before January 31, throughout the term of the Permit.
- 11.2 The Risk Management Plan shall contain all the information listed in Section 18 of the Regulations.

12.0 Decommissioning, Abandonment and Rehabilitation Plan

- 12.1 In accordance with Section 19 of the Regulations, the Permit Holder shall not construct or install a generator, cable or other equipment or structure in the Big Moon Canada Corporation Permit Area until the Minister has approved the Decommissioning, Abandonment and Rehabilitation Plan for the Permit Area. The Decommissioning, Abandonment and Rehabilitation Plan shall be submitted in writing to the Minister for approval no later than sixty (60) days prior to Deployment.
- 12.2 The Decommissioning, Abandonment and Rehabilitation Plan shall contain all the information listed in Section 20 of the Regulations.

- 12.3 The Permit Holder shall update and revise the Decommissioning, Abandonment and Rehabilitation Plan as required by the Minister throughout the life of the project. Any amendment shall be submitted in writing to the Minister in accordance with Section 22 of the Regulations.
- 12.4 The Permit Holder shall comply with the prescribed steps to decommission and rehabilitate the Big Moon Canada Corporation Permit Area, as set out in Section 21 of the Regulations.

13.0 Financial Security and Insurance

- 13.1 The Permit Holder shall provide proof of liability insurance to the Minister for approval within sixty (60) days following the Effective Date of the Permit and prior to the commencement of any construction, installation, and operation, decommissioning of a generator and any cables and other equipment or structures intended to be used with the generator.
- 13.2 The Permit Holder shall maintain its insurance coverage in full force and effect for the term of the Permit. At a minimum, the Permit Holder shall maintain environmental impairment liability insurance, commercial general liability insurance and marine insurance coverage on any vessel employed during construction and Deployment of equipment in the Permit Area.
- 13.3 The Permit Holder shall ensure that financial security is provided within sixty days (60) following the Effective Date of the Permit and then annually on or before January 31, through the term of this Permit, in an amount to ensure the complete decommissioning of the project based on the estimated cost of the decommissioning activities described in the approved Decommissioning, Abandonment and Rehabilitation Plan.
- 13.4 The Permit Holder shall ensure that any security provided prior to the commencement of any construction, installation, operation and decommissioning of the activities approved under the Permit are kept in effect throughout the Permit term.
- 13.5 Financial security described in this section shall be in one of the following forms:
 - a. Cheques made payable to the Minister of Finance;
 - b. Government guaranteed bonds, debentures, term deposits, certificates of deposit, trust certificates or investment certificates assigned to the Minister of Finance; or

c. Irrevocable letters of credit, irrevocable letters of guarantee, performance bonds or surety bonds in a form acceptable to the Minister.

14.0 Performance Requirements

- 14.1 The Permit Holder shall provide final technical design drawings of the Generation Facility stamped by a licensed professional engineer to the Program Administrator no later than ninety (90) days prior to Deployment.
- 14.2 The Permit Approval is subject to the following performance targets. Failure to meet these requirements, may result in the suspension or revocation of this Permit:
 - a. Capability of deployed Device(s) to be operated and controlled with consistency following installation; and
 - b. Capability to achieve a capacity factor of at least 18% shall be proven for each installed Device(s).
- 14.3 The Permit Holder shall provide performance reports to the Program Administrator no later than January 31 of each year through the term of this Permit. At a minimum, the report must include the following for each Device installed:
 - a. Amount of energy generated;
 - b. Date(s) energy was generated;
 - c. Peak generation;
 - d. Capacity factor achieved and calculation methodology;
 - e. Number and date(s) of days deployed;
 - f. Number and date(s) of operating days;
 - g. Number and date(s) of maintenance days (planned and unscheduled);
 - h. The type of maintenance required; and,
 - i. A summary of operational issues impacting energy production or safe operation of the Generation Facility.

15.0 Notice to Minister and Program Administrator

15.1 Notice, documents and other information required to be sent to the Minister of the Nova Scotia Department of Energy, shall be in writing and may be served by personal service or fax, addressed as follows:

Attention: Minister of Energy

Nova Scotia Department of Energy Joseph Howe Building 1690 Hollis Street Po Box 2664 Halifax, NS B3J 3J9

Phone: (902) 424-4575 Fax: (902) 424-0528

15.2 Notice and/or information required to be sent to the Program Administrator shall be in writing and sent via email to: <u>marinerenewables@novascotia.ca</u>

16.0 Notice to NSPI

16.1 In the event that the Permit, expires is suspended or revoked, the Minister will notify NSPI in a timely manner.

17.0 Standards

17.1 The Permit Holder must comply with industry standards for marine renewable energy conversion systems as they exist at the time of the issuance of this Permit and as amended, including but not limited to the International Electrotechnical Commission (IEC) Technical Committee (TC) 114.

Schedule A – Big Moon Canada Corporation Permit Area

Beginning at a point BMP1 having a northing of 502030 meters and an easting of 398556 meters; THENCE South a distance of 1.85 kilometers to a point with a northing of 5018418 meters and an easting of 398177 meters;

THENCE West a distance of 18.52 kilometers to a point with a northing of 5022208 meters and an easting of 380049

meters; THENCE North a distance of 1.85 kilometers to a point with a northing of 5024021 meters and an easting of 380428 meters;

THENCE East a distance of 18.52 kilometers to point BMP1.



The above described Big Moon Canada Permit Area contains an area of 3426 hectares.

BIGMOON CANADA MARINE RENEWABLE ENERGY PERMIT SUBMISSION

Phase 1 Prototype Testing

From 2015 to 2016, BigMoon designed, manufactured, and completed land and sea trials of a 200kW prototype of its proprietary barge and generator assembly. Sea trials were conducted during April of 2016 in the Minas Basin after receiving approval from all necessary governmental agencies. For the preparation of this test, Big Moon worked with the support of Nova Scotia Department of Energy, FORCE and several partners that provided their expertise for the success and safety of this testing.

Phase 2 Prototype Testing

During the month of August 2017 BMP conducted a second phase of prototype testing in the Bay of Fundy. This testing was conducted to verify the controllability of the overall system in the tidal flow of the Bay of Fundy.

A 1/10th scale model was built in Nova Scotia and successfully tested with the support of local contractors. This was a major milestone for BMP as it represented further validation of its proprietary tidal energy-generation system and provided valuable information that will be beneficial in the final design of the BMP novel Tidal Energy System.

Phase 3 Prototype Testing

BMP is currently developing a 100kW Prototype that it plans on testing in 2018. The test will be conducted at the proposed project site. The testing is planned to last for 2 to 3 months.

Commercial System

The 5 MW project will begin with the installation of a 1 MW system. Upon success of the first installation, the subsequent 4 MW will be installed.

Proposed Land Based Generator Assembly

Proposed Tidal Barge



