

Our Rights. Our Future.

September 22, 2020

Robin Boychuk
Senior Consultation Analyst – Atlantic Region
Impact Assessment Agency of Canada
1801 Hollis Street, Suite 200
Halifax, NS B3J 3N4
robin.boychuk@canada.ca

75 Treaty Trail Truro, NS B6L 1W3

Tel (902) 843 3880 Fax (902) 843 3882 Toll Free 1 888 803 3880 Email info@mikmaqrights.com www.mikmaqrights.com

Re: Review of the Environmental Impact Statement of the Bay du Nord Development Project

Ms. Boychuk,

KMKNO has reviewed the Draft Environmental Impact Statement for the Bay du Nord Development Project. I wish to provide you with our comments, concerns and recommendations. KMKNO has asked AECOM to conduct a review of the draft EIS and we have submitted the AECOM review to the Impact Assessment Agency of Canada (IAAC).

The Mi'kmaq are the holders of constitutionally protected Aboriginal and treaty rights, which include the Aboriginal right to fish for food and the Treaty right to fish for a moderate livelihood. Any impacts to fish and fish habitat are impacts to Mi'kmaw rights. Therefore, it is our expectation that the Proponent and regulators will take mitigative measures to reduce potential adverse impacts to Mi'kmaw rights, practice the precautionary principle to address scientific unknowns, and compensate the Mi'kmaq for any infringement on fishing rights.

We wish to reiterate our concern that this offshore oil development project, as well as the other concurrent offshore oil and gas exploration and development in Newfoundland, may impact both Atlantic salmon and American eel. The timing and design of the project activities will be important to reduce potential impact to migrating fish as well as those overwintering. The Mi'kmaw culture is dependent on the relationship of the Mi'kmaq to many species, such as Atlantic salmon and the American eel, where the availability of such species is tied to the Mi'kmaw identity.

As detailed within the AECOM review, we ask that regulators and the Proponent provide specific additional information to support comments made about project risk and expand participation of Indigenous peoples in the co-development of mitigation and monitoring practices. We also recommend Equinor and other proponents working in the offshore implement temporal and adaptive management strategies to reduce risk to Atlantic salmon, American eel and other fish and wildlife species.

Our concerns referred to above are magnified when considering the number of development and exploration drilling projects being proposed in the offshore Newfoundland. This intensified development in the offshore makes it even more important that a two-eyed seeing perspective be adopted in a way that values Mi'kmaw relationships to culturally significant species, prevents harm and waste, protects habitats, embraces the precautionary principle, is guided by Indigenous Knowledge, and considers the power dynamics that limit the participation and guidance of the Mi'kmaq in managing offshore development.

We look forward to further consultation on this matter.

Yours in recognition of Mi'kmaw rights and title,

<Original signed by>

Twila Gaudet, B.A., LL. B. Director of Consultation Kwilmu'kw Maw-klusuaqn Negotiation Office

c. Joanna Tombs, CEAA

Joanna.tombs@canada.ca



Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO)

Review of the Environmental Impact Statement of the Bay du Nord Development Project



Prepared by:

AECOM Canada Ltd. 1701 Hollis Street SH400 (PO Box 576 CRO) Halifax, NS B3J 3M8 Canada

T: 902 428 2021 F: 902 428 2031

Date: September 2020

Project#: 60565441

Prepared for:

Kwilmu'kw Maw-klusuaqn Negotiation Office 75 Treaty Trail Millbrook, Nova Scotia B6L 1W3

Distribution List

# Hard Copies	PDF Required	Association / Company Name	
	✓	Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO)	
	✓	AECOM Canada Ltd.	



AECOM Canada Ltd. 1701 Hollis Street SH400 (PO Box 576 CRO) Halifax, NS B3J 3M8 Canada

T: 902 428 2021 F: 902 428 2031 www.aecom.com

September 25, 2020

Project #

60565441

Consultation Researcher Kwilmu'kw Maw-klusuaqn Negotiation Office 75 Treaty Trail Millbrook, Nova Scotia B6L 1W3

Dear Mr. Peters:

Mr. Derek Peters

Subject: Review of the Environmental Impact Statement of the Bay du Nord Development Project

AECOM Canada Ltd. (AECOM) is pleased to provide Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO) with this draft report on AECOM Canada Ltd.'s (AECOM) review of the Environmental Impact Statement for the Bay du Nord Development Project, completed by Equinor Canada Ltd.

Thank you for the opportunity to assist KMKNO with this work.

Sincerely,

AECOM Canada Ltd.

<Original signed by>

Derek Heath Senior Project Manager, Canada East Derek. Heath @aecom.com

DH:mm Encl.

Statement of Qualifications and Limitations

The attached Report (the "Report") has been prepared by AECOM Canada Ltd. ("AECOM") for the benefit of the Client ("Client") in accordance with the agreement between AECOM and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations");
- represents AECOM's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to AECOM which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

AECOM shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. AECOM accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

AECOM agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but AECOM makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

Without in any way limiting the generality of the foregoing, any estimates or opinions regarding probable construction costs or construction schedule provided by AECOM represent AECOM's professional judgement in light of its experience and the knowledge and information available to it at the time of preparation. Since AECOM has no control over market or economic conditions, prices for construction labour, equipment or materials or bidding procedures, AECOM, its directors, officers and employees are not able to, nor do they, make any representations, warranties or guarantees whatsoever, whether express or implied, with respect to such estimates or opinions, or their variance from actual construction costs or schedules, and accept no responsibility for any loss or damage arising therefrom or in any way related thereto. Persons relying on such estimates or opinions do so at their own risk.

Except (1) as agreed to in writing by AECOM and Client; (2) as required by-law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

AECOM accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of AECOM to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report and any use of the Report is subject to the terms hereof.

AECOM: 2015-04-13 © 2009-2015 AECOM Canada Ltd. All Rights Reserved.

Authors

Report Prepared By:

DRAFT

Tara Oak, B.Sc

Environmental and Regulatory Planning PAITA Environmental Consulting Inc.

DRAFT

Karina Andrus, M.Sc. Technical Lead, Environmental Assessment AECOM

DRAFT

Jonathan Ward, M.Sc. RPBio. Senior Environmental Scientist AECOM

Report Reviewed By:

DRAFT

Anna Hall, Ph.D., RPBio. Marine Mammal Biologist AECOM

DRAFT

Robin Reese, M.E.Des., PBiol., RPBio. Technical Lead, Environmental Permitting AECOM

Table of Contents

			page
1.	Intr	roduction	1
	1.1	AECOM's Mandate	
	1.2	Project Overview	1
	1.3	Environmental Assessment Process	4
2.	Rev	view Method	5
3.	Res	sults	6
4.	Cor	nclusions and Recommendations	18
5.	Rev	view Limitations	19
6.	Ref	ferences	20
List	of F	Figures	
Figure	1: F	Project Location	3
List	of T	Γables	
Table 1	l: F	Review of Bay du Nord Development Project Environmental Impact Statement	7

Appendices

Appendix A. Table A-1 List of Acronyms and Abbreviations

1. Introduction

1.1 AECOM's Mandate

Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO), on behalf of the Assembly of Nova Scotia Mi'kmaq Chiefs (ANSMC), retained AECOM Canada Ltd. (AECOM) as an Independent Consultant to review the federal environmental impact statement (EIS) and environmental assessment (EA) of exploration/delineation/appraisal drilling programs and associated activities, proposed to be conducted in the eastern portion of the Canada-Newfoundland and Labrador Offshore Area.

AECOM's mandate consists of supporting the ANSMC in the review of the EIS and the EA reports to evaluate the scientific and technical information for completeness, to identify information gaps, and environmental risks to the Mi'kmaq of Nova Scotia, and to propose actions to address outstanding information gaps.

This report considers the EIS and EIS Summary for the Bay du Nord Development Project (the Project) proposed by Equinor Canada Ltd. (the Proponent), submitted to the Impact Assessment Agency of Canada (the Agency; formerly the Canadian Environmental Assessment Agency) to fulfil the requirements of the EIS Guidelines under the *Canadian Environmental Assessment Act*, 2012 (CEAA 2012). A subsequent report will address the Agency's EA Report when this has been issued for public comment.

1.2 Project Overview

The Project includes the development of the Bay du Nord field, which includes Bay du Nord, Bay de Verde and Bay de Verde East and the Baccalieu discovery (collectively the Core Bay du Nord [BdN]) and Project Area Tiebacks (if additional economically recoverable reserves within the Project Area are developed) for the production of oil and gas. The Project is located approximately 500 km east-northeast of St Johns, outside of Canada's 200 nautical miles Exclusive Economic Zone (**Figure 1**). The Project Area (the area in which development takes place) will cover an area of approximately 4,900 km² in waters 340 m to 1,200 m deep. Within the Project Area, the Core BdN Development will occur primarily within SDL 1055, SDL 1056 and SDL 1057 and portions of EL 1143 and EL 1157, an area of approximately 470 km² in water depths ranging from 1,000 m to 1,200 m. According to the current design, the footprint of the Project facilities on the seabed will cover approximately 7 km².

The Project includes the offshore construction, installation and hook-up and commissioning, production and maintenance operation, drilling activities, supply and servicing, supporting surveys, and decommissioning. The Proponent will drill up to 40 wells with an estimate of between 5 and 20 production wells serviced by a floating production, storage and offloading facility (FSPO). Logistics support will be provided through a fleet of supply vessels, helicopters and tankers. Extracted crude oil will be offloaded from the production installation via a shuttle tanker; the activity of shipping crude oil, along with land-based activities are included within the scope of the assessment.

Activities associated with the Project include:

Mobilization of FPSO

The FPSO will be connected to moorings via the turret. Lowlines and umbilicals will be tied-in via the turret also.

Subsea infrastructure

- Subsea infrastructure will include well templates with wellhead and wet trees (production, water and gas injection), production and water injection manifolds, flowlines (gas injection, production, water injection), FPSO/turret moorings, riser bases, umbilicals and a fibre optic cable.
- Well Installation
- Wells will be drilled using either a floating semi-submersible or a drillship

Supply and Servicing of the Development

 The development will be supported by various logistical activities, including existing onshore supply base and warehousing, offshore supply vessel (OSV), standby vessels (SBVs), helicopters and airports.

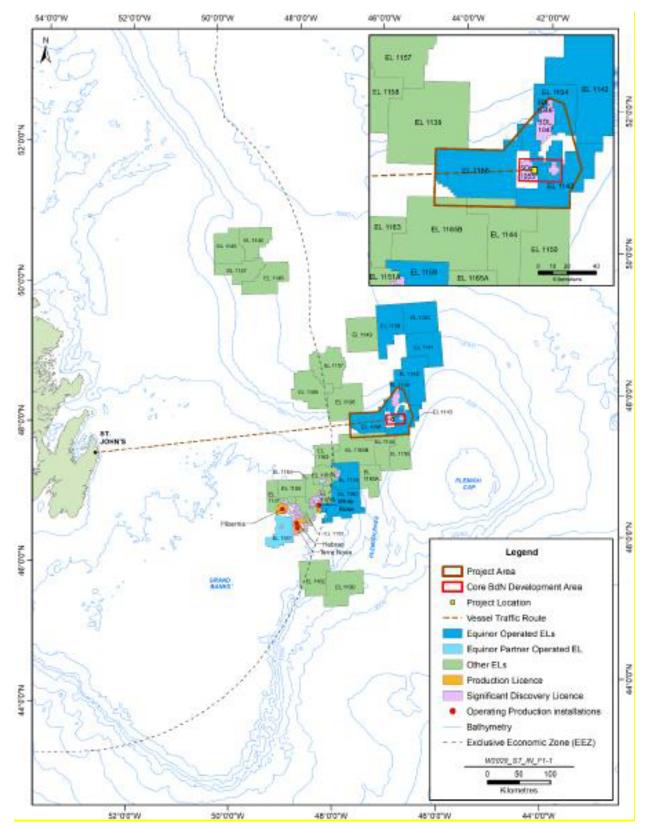
Decommissioning

The Project will be decommissioned in 2057 should Project area tiebacks be realized

The development will be supported by several surveys that underpin the production and drilling activities. These surveys include:

- Geophysical / Geohazard / Wellsite and Seabed Surveys
- 2D / 3D / 4D Surveys
- Vertical Seismic Profiling (VSP) Surveys
- Environmental Surveys
- Geotechnical Surveys
- ROV / AUV Surveys

The Proponent proposes to commence development of the Project area in 2021 operating until 2057 should Project area tiebacks be realized. Drilling activities are planned to commence in 2024, with an average of 45 to 85 days taken to drill a well. Drilling is not anticipated to be continuous and may occur year-round at any time over the life of the Project.



(Adopted from Bay du Nord Development Project: Summary of Environmental Impact Statement, 2020)

Figure 1: Project Location

1.3 Environmental Assessment Process

The Project requires review and approval pursuant to the *Canadian Environmental Assessment Act* (CEAA 2012), as the Agency determined that it constitutes a "designated project" under the associated Regulations Designating Physical Activities, as it includes:

"The construction, installation and operation of a new offshore floating or fixed platform, vessel or artificial island used for the production of oil or gas."

The Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) also requires that Project-specific EAs be conducted pursuant to the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act* and the *Canada-Newfoundland Atlantic Accord Implementation Act* ("the Accord Acts").

The EA review of the Project under CEAA 2012 commenced on June 22, 2018 when the proponent submitted a Project Description and associated Summary Documents to the Agency. These documents were made available for government and public review, following which the Agency determined that a federal EA was required for the Project. Notices of EA Determination and EA Commencement were posted on August 9, 2018 followed by the final EIS Guidelines on September 26, 2018,

The Proponent submitted a draft EIS and EIS Summary to the Agency on February 12, 2019. Following a conformity review, the Agency issued a letter to the proponent on July 10, 2020, indicating that the documents conform to the EIS Guidelines. The EIS and EIS Summary were posted for public comment from July 30, 2020, to September 13, 2020. The Agency will consider input from Indigenous consultation and engagement, public and stakeholder comments, regulatory review, the proponent's EIS, and other information received during the EA process, and will prepare a draft EA Report to inform a Project decision statement to be made by the federal Minister of Environment.

2. Review Method

AECOM's team of senior environmental and social specialists reviewed the proponent's EIS documents. The team is well versed in best practices for offshore oil and gas projects, has extensive expertise in environmental and social impact assessment, and have work-related experience in offshore oil and gas projects in Atlantic Canada.

AECOM's review focused on identifying information gaps, highlighting potential concerns and deficiencies while providing inquiries and recommendations regarding supplementary information, proposed mitigation measures, and environmental monitoring. The review team concentrated on key topics of importance to KMKNO and ANSMC including effects on fish and fish habitat; effects on fishing for communal commercial and food, social and ceremonial purposes; and effects of accidents and malfunction (including the use of dispersants in oil spill response), and proposed response measures and contingency plans. Areas considered as having the most potential to affect Mi'kmaq rights and interests, notably environmental effects to traditional activities and the quality of life of the Mi'kmaq people, were of the highest priority for the review.

Environmental impacts would result from a large subsea oil release; therefore, spill prevention and response plans were reviewed in detail, including project design, blowout probabilities, spill dispersion modelling scenarios and results, well control planning, and mitigation and contingency measures.

3. Results

Table 1 provides a review of the EIS Summary and EIS documents as provided by the Agency to KMKNO on July 30, 2020, for review and comment. The sections reviewed included:

- EIS Summary
- EIS Section 2 Project Description
- EIS Section 3 Regulatory, Indigenous, and Stakeholder Engagement
- EIS Section 7 Existing Human Environment
- EIS Section 9 Marine Fish and Fish Habitat: Environmental Effects Assessment
- EIS Section 11 Marine Mammals and Sea Turtles: Environmental Effects Assessment
- EIS Section 14 Indigenous Peoples: Environmental Effects Assessment
- EIS Section 15 Cumulative Environmental Effects
- EIS Section 16 Accidental Events
- EIS Section 17 Effects of the Environment on the Project
- EIS Section 18 Environmental Assessment Summary and Conclusions
- Appendix P Well Intervention Prevention Strategies

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale		Specific Question/ Request for Information
1	EIS Summary and EIS – Overarching Comment	The mapping imagery used within the report is of low resolution making them challenging to review e.g., 7-2 and 15-1.	•	The Proponent should improve the resolution of all mapping in this report by increasing the size and resolution of the maps.
2	EIS Summary Section 2.6.3.2 Well Drilling and Completion	■ The Proponent indicates that drilling activities may include batch drilling, and notes that batch drilling offers advantages including improved health, safety, and environment (HSE) associated with reduced Blowout Preventer (BOP) / riser running.		The Proponent should also describe additional environmental/health/safety considerations that may be associated with batch drilling and confirm whether any effects predictions should be reassessed from this perspective.
3	EIS Section 3.3 Indigenous Groups	 KMKNO and ANSMC expects that consultation is undertaken directly with them on all phases of the Project planning process, including being provided the opportunity to review documents prior to submission to regulators, during both the EA process and post-EA regulatory approval processes. The Proponent indicates that it has built upon the insights and information acquired during ongoing engagement efforts from the Flemish Pass Exploration Drilling EIS; however, the scope and duration of activities of that project differs from that of Equinor's Bay du Nord Development Project. It is noted that engagement directly with KMKNO Nations has been via email and letter and that only one in-person meeting has occurred (on July 24, 2018). Further, a record of issues raised and responses to those issues has not been recorded in a manner to assist the reviewers to understand the issues identified and whether these issues were mitigated by Project design changes, mitigation and/or accommodation. 		The Proponent should provide a communication log that meets the best practices for consultation and summarizes when and whom was engaged, what concerns were raised, how the Proponent addressed concerns, and any follow-up required. It is the expectation of KMKNO and ANSMC that the Proponent work directly with them to develop a mutually agreed upon process for engagement and consultation, including a proposed meeting schedule and details as to how information from consultation will be disseminated, reviewed and verified.
4	EIS Section 3.3.2 Kwilmu'kw Mawklusuaqn Negotiation Office (KMKNO) Issues and Concerns (Table 3.13)	■ KMKNO and ANSMC have raised concerns related to the cumulative effects of the offshore projects on Aboriginal rights to fish for food, social and ceremonial purposes, Treaty rights including a right to fish for a moderate livelihood, and commercial communal fishing licences; however, the summary of issues provided only states "Cumulative Effects" and does not specifically respond to the concerns KMKNO has raised.		The Proponent should provide a communication log that identifies the specific issues raised and a response to those issues that illustrates a change to Project design, mitigation and/or accommodation measures to address the issue.
5	EIS Section 3.3.2 Kwilmu'kw Mawklusuaqn Negotiation Office (KMKNO) Issues and Concerns (Table 3.13)	The Proponent has indicated that it will develop and implement a compensation program for damages experienced by commercial and communal commercial fishers resulting from the Project activities.	•	The Proponent should develop a Project-specific Compensation Program which includes the potential economic loss and the cultural and mental impacts from fishing gear loss, the loss or reduced access to commercial

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale	Specific Question/ Request for Information
			communal fishing areas and moderate livelihood through the establishment of an exclusion zone, and the potential loss of the fishing and impacts to the Mi'kmaq's exercise of cultural and traditional practices due to potential accidents and malfunctions, and perceived taint. This program should be in place prior to initiating Project activities.
6	EIS Section 3.3.2 Engagement Activities	 The Proponent indicates that it has commissioned a desktop Indigenous Knowledge study, and where relevant and appropriate have incorporated Indigenous knowledge into the various EIS chapters. This desktop study was not commissioned directly from the affected First Nations but was a review of publicly available information. When creating an Indigenous Knowledge study like this with the proponent must engage with KMKNO and ANSMC to seek guidance and input. 	■ It is the expectation of KMKNO and ANSMC that the Proponent work directly with them to develop a mutually agreed upon process for engagement and consultation, including the gathering and verification of community Indigenous Knowledge and/or community specific publicly-available information. The process should also ensure that Indigenous Knowledge is protected through a protocol agreed to by the knowledge holders.
7	EIS Section 7.3.4	 The Proponent acknowledges that some Mi'kmaq First Nations hold commercial-communal licences in the NAFO Unit areas that overlap the Project area, and that Mi'kmaw First Nations may harvest marine migratory species in coastal areas through Food, Social and Ceremonial (FSC) or moderate livelihood fishing. Further, the EIS Guidelines require a description of where traditional land use takes place, an assessment of the mental and social well-being of Indigenous people, and the consideration of effects to the practice of a current use or activity through changes or alterations to access into areas used for traditional purposes and commercial fishing, including implementation of exclusion zones. 	 Given that Mi'kmaw First Nations conduct FSC harvest and moderate livelihood fishing for marine migratory species in coastal area and conduct harvesting activities in the vicinity of the shoreline that could be impacted by an oil spill, the Proponent should explain the rationale for not conducting specific studies on current use of lands and resources for traditional purposes. As noted above, the Proponent should develop a Project-specific Compensation Program, which includes the potential economic loss and the cultural and mental impacts from fishing gear loss, the loss or reduced access to commercial communal fishing areas and moderate livelihood through the establishment of an exclusion zone, and the potential loss of fishing and impacts to the Mi'kmaq's treaty rights and exercise of cultural and traditional practices due to potential accidents and malfunctions. This program should be in place prior to initiating Project activities.
8	EIS Summary Section 7.7.3.1	■ The Proponent indicated that there were no recorded landings of either swordfishor tuna in the Project area between 2011 and 2016, however no reference is provided. The Proponent states that the main source is Department of Fisheries and Oceans Canada (DFO); however, given that	KMKNO and ANSMC request consultation to obtain or verify any community-specific information, traditional land use or FSC activities. It is the expectation of KMKNO and ANSMC that the Proponent work directly with them to develop a mutually agreed upon process for engagement and

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale	Specific Question/ Request for Information
		the information is related to FSC, this information should be sought directly from KMKNO and ANSMC.	consultation, which includes the gathering and verification of this information. The process should also ensure that Indigenous Knowledge is protected through a protocol agreed to by the knowledge holders. The Proponent should provide references to support the data used.
9	EIS Section 9.0 Marine Fish and Fish Habitat: Environmental Effects Assessment	It is unclear to the reviewer why effects are placed in the context of the Project Area rather than the LSA.	■ The Proponent should provide further information on the use of the Project Area rather than LSA as the point of reference for assessing the spatial extent of an effect.
10	EIS Section 9.0 Marine Fish and Fish Habitat: Environmental Effects Assessment	General comment: Mitigation measures, specifically the avoidance of an effect on Lophelia pertusa are inconsistently adopted as definitive mitigation measures versus potential mitigation measures i.e., "will take place" versus "may take place".	■ The Proponent should remove the qualifier "may" when describing mitigation measures that "will" be implemented.
11	EIS Section 9.0 Marine Fish and Fish Habitat: Environmental Effects Assessment	■ The EIS Guidelines (Section 7.3.1) require that the Proponent describe the predicted effects on fish and fish habitat, including the calculations of any potential habitat loss (temporary or permanent) in terms of surface areas (e.g., spawning grounds, juvenile, rearing and feeding areas), and in relation to availability and significance. The Proponent did not provide information about fish habitat loss in the EIS.	■ This is an information gap. The Proponent should calculate fish habitat surface area losses in the Project Area by type of habitat (e.g., spawning, rearing, feeding) and identify these on a map or provide clear rationale and justification as to why they believe there will be no losses, along with references.
12	EIS Section 9.3.2.4 Waste Discharges during Production and Maintenance	■ The paragraph states, "Species like Atlantic salmon do not migrate in large concentrations and preferred sea surface temperatures (SSTs) would likely limit habitat use to temporary movement corridors in the Project Area, limiting potential for interactions with produced water."	The Proponent should provide peer-reviewed references and mapping to support this statement and should define what they mean by "species like".
13	EIS Section 9.5 Species at Risk: Overview of Potential Effects and Mitigation Measures	■ The paragraph states, "Only five species are listed under NL ESA or SARA legislation including the white shark (SARA: Endangered), northern (broadhead) wolffish (SARA: Threatened), spotted wolffish (SARA: Threatened) and striped (Atlantic) wolffish (SARA: Special Concern) and American eel (NL ESA: Vulnerable)."	■ The Proponent should avoid the use the qualifier "only", as it infers a lesser degree of importance to the audience.
14	EIS Section 9.5.6 American Eel	 This section should contain a figure illustrating the Project and the overlap with the migratory routes described in paragraph 2. The paper referenced within the document (Béguer-Pon et al. 2015) focuses on American eel released 	■ The Proponent should seek opportunities to enhance the understanding of the migratory routes of American eel as they are assumed to overlap with the Project.

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale	Specific Question/ Request for Information
		with pop-up satellite archival tags along the coast of Nova Scotia to the south, which is an extrapolation of the species behaviour to fit the Project's site. The author of the study states that [the study] "represents an important step forward in the understanding of routes and migratory cues" while also acknowledging limitations in the collection of data through the adoption of pop-up satellite archival tags. Accordingly, this study is not the complete picture of American eel migration and more information is required to improve the understanding of migratory behaviour.	
15	EIS Section 9.6.2 Residual Environmental Effects Summary	 Regarding the statement, "localized positive effects on fish abundance and diversity by creating a "reef effect" that aggregates plankton and increases invertebrate colonization of hard substrate": While DFO may acknowledge that there may be positive effects associated with certain Project components, the Fisheries Act does not account for (i.e., credit) inherent benefits of Project-associated hard substrate when calculating the area of a potential HADD, and the Proponent will not receive offsetting credits for doing so. 	Fish Habitat Under the Fisheries Act" December 2019.
16	EIS Section 9.6.2 Residual Environmental Effects Summary	■ Regarding the following statement: "If DFO determines that a Fisheries Act Authorization is required respecting the HADD of fish habitat associated with the installation of subsea infrastructure, and habitat offsetting is required, a habitat offsetting program will be developed in conjunction with DFO as a mitigation measure for the net loss of fish habitat resulting from the Project."	■ The Proponent should explain the term "net loss". Is the Proponent planning to offset habitat before the calculation of lost habitat through a Fisheries Act Authorization and subsequently only requiring offset of the remaining (net) habitat?
17	EIS Section 9.6.3 Determination of Significance. Table 9.18 Environmental Effects Assessment Summary: Marine Fish and Fish Habitat (including SAR) – Core BdN Development	■ Error in the table's key.	■ The Proponent should update the table's key, as there is an error when categorizing the reversibility of an effect. The Symbol "Y" is used throughout, which is not present or defined in the key. Note that this error appears in many assessment tables in the EIS.
18	EIS Section 11.1.5.2 Summary of Mitigation Measures, Page 11-19; and 11.6.2 Residual	 Mitigation measures appear to adopt the use of a Marine Mammal Observer (MMO) during the use of air source arrays. It does not appear that the presence of MMOs is 	■ While it is noted that a Marine Mammal and Sea Turtle Monitoring Plan will be developed for 4D seismic surveys there is no mention of a monitoring plan or the use of a

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale	Specific Question/ Request for Information
	Environmental Effects Summary	considered as a mitigation measure for other Project activities including Offshore Construction and Installation, and Hook-Up and Commissioning and Drilling Activities etc. (Table 11-9).	MMO for other activities. Sufficient information needs to be provided within the Application to give confidence that the significance determination of residual effects (i.e., effects remaining following the application of mitigation measures) is accurately captured. The Proponent should provide a sufficient level of detail regarding the content of the Plan within the application and a rationale as to why other activities are not captured within this Plan to support this determination.
19	EIS Section 11.3.2.1 Underwater Sound Emissions from the FPSO (Changes in Injury and/or Mortality Levels)	 In relation to the use of air guns for seismic activities associated with oil and gas discovery, the Proponent states: "However, there is no definitive evidence that any of these effects occur even for marine mammals or sea turtles in close proximity to large arrays of air sources." The U.S. Bureau of Ocean Energy Management (BOEM 2019) has stated that use of seismic air guns in the marine environment are unlikely to be harmful to marine mammals but it is a known fact that marine mammals utilize sound for their communication. It has been documented in the scientific literature that the loud sound from air guns can potentially travel thousands of kilometres through the ocean and may disrupt marine mammal communication, pod formation, and foraging (Kavanagh et al. 2019 and Weilgart 2013). 	 The Proponent should provide a more thorough review of the effects assessment and Project specific mitigations for marine mammals such that the margin of risk associated with the at-sea operations of the Project be further reduced. Further, the Marine Mammal and Sea Turtle Monitoring Plan should include Project phases and provide sufficient information in order to address significance determination effects remaining to marine mammals and sea turtles following the application of mitigation measures.
20	EIS Section 11.3.4.1 Presence of Marine Vessels, Page 11-41	 Regarding the statement, "Consistent with International Regulations for Preventing Collisions at Sea, 1972 with Canadian Modifications, Rule 5, every vessel shall maintain a proper lookout at all times." 	■ The Proponent should confirm whether MMOs will be utilized on Supply and Servicing vessels and if not, why. Further, the Proponent should confirm whether the lookout is intended to be on watch for both vessels and marine mammals, or whether they are intended to be independent lookouts.
21	EIS Section 14.1.4 Environmental Effect Significance Definitions	■ The Proponent has provided an overview of how it defined significant adverse environmental effects, but does not include a discussion on uncertainty, particularly around potential effects to migratory species that are harvested for FSC and moderate livelihood purposes.	■ The Proponent should provide an overview of the uncertainty associated with the effects assessment, particularly as it relates to a lack of information on migratory species, knowledge of traditional land and resource use practices, and a lack of engagement with KNKNO and ANSMC.
22	EIS Section 14.1.5.3 Summary of Mitigation Measures	■ The Proponent has committed to implementing a standard marine communication protocol to promote safe practices between commercial fishing enterprises and other marine users and Project operations.	■ KMKNO and ANSMC request consultation to work directly with the Proponent on a mutually agreed upon process for communication, and that this form the basis for an Indigenous Communication Plan (ICP). This plan should be

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale	Specific Question/ Request for Information
			in place prior to initiating Project activities and include both emergency response and marine user interaction protocols.
23	EIS Section 16.2.7 Summary of Accidental Events Scenarios	 The Proponent has selected spill scenarios for detailed spill fate and effects modelling and effects assessment, including the following: Subsurface blowouts - two locations in Project Area Batch crude spills - various sizes, surface and subsurface Batch diesel spill SBM whole mud spill - two locations in Project area, surface and subsurface Vessel-to-vessel collision – in vessel traffic route However, for subsurface blowouts, the Proponent indicates that, a recent EIS submitted by CNOOC (CNOOC 2018) regarding exploration drilling used a larger model domain. Consequently, the accidental effects assessment for several components, including marine birds, marine mammals and sea turtles, special areas, commercial fisheries, and Indigenous peoples, reference the CNOOC spill modelling. 	 The Proponent should explain and justify why their model domain was smaller than that of CNOOC. Additionally, KMKNO seeks confirmation from the applicable regulator(s) that the Proponent's model domain and/or reliance on CNOOC's model is appropriate.
24	EIS Section 16.7.2 Summary of Key Mitigation Measures – Accidental Events	■ The Proponent states: "In the unlikely event of an accidental event such as a significant spill or a blowout, event-specific environmental monitoring programs may be required, which will be developed and implemented in consultation with the appropriate regulatory agencies."	■ The Proponent should confirm that it will develop and implement event-specific environmental monitoring programs in consultation with the appropriate regulatory agencies, irrespective of a regulatory requirement to do so.
25	EIS Section 16.1.2.2 Well Capping and Containment Plan; 16.3 Spill Risk and Probabilities	 KMKNO acknowledges that the Proponent has provided a thorough explanation as to the conservative assumptions incorporated into the estimated timeframe for capping a well in the event of a subsea blowout. It is not apparent that the estimate 115 days for drilling a relief well included similarly conservative assumptions. 	■ The Proponent should identify the assumptions that were incorporated into the estimated timeframe for drilling a relief well (115 days).
26	EIS Section 16.6 Vessel Collision	■ The Proponent states the following with regard to vessel collisions: "In the Flemish Pass Exploration Drilling Project EIS, Nexen Energy ULC (2018) modelled a 750 m³ litre spill from a vessel-to-vessel collision between St. John's, NL and their proposed project area in the Flemish Pass. The model results indicated that the	■ KMKNO seeks confirmation from the applicable regulator(s) that it is appropriate and reasonable for the Proponent to rely on Nexen's modelling for a spill resulting from a vessel-to-vessel collision, rather than conducting its own spill modelling for this scenario.

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale	Specific Question/ Request for Information
		release migrated to the east and did not result in oil coming in contact with the shoreline. In addition, the release would be discontinuous and patchy surface sheens, with a 40-km rainbow sheen that would transition to the colorless and silver sheen. A surface oil exposure area of 13 km² and 925 km² for the 10 µm ecological threshold and 0.04 µm socio-economic threshold, respectively, was predicted (Nexen Energy ULC 2018). Based on the results of the Nexen diesel model (Nexen Energy ULC 2018), Equinor Canada did not undertake a vessel-to-vessel spill model. If this scenario was undertaken, the model would have used the same scenario – volume and reference location – along the vessel traffic route, using the RPS model. The modelling results would be similar to the those presented by Nexen (2018)."	
27	EIS Section 16.7.5.6 Residual Environmental Effects Assessment and Evaluation	■ The Proponent states the following with regard to the fate of birds exposed to oil, upon rescue and cleaning efforts: "Once birds are exposed to oil, and even with rescue and cleaning efforts, the chances of survival in the past were often quite low (French-McCay 2009). In recent years, however, the percent of African penguins successfully released after de-oiling has often been over 90 percent (Wolfaardt et al. 2009)."	 KMKNO does not find it reasonable that the Proponent should reference a study of African penguins at all, let alone to use it to infer that chances of survival upon oiling have improved in recent years (particularly as the two referenced studies are both from 2009). The Proponent should reference more recent and relevant studies in its assessment of effects of oiling on birds and their chances of survival.
28	EIS Section 17.3 Assessing and Mitigating Potential Effects of the Environment on the Project	 The Proponent states the following with regard to the Effects of the Environment on the Project: "The primary measures for mitigating risks associated with effects from the environment on the Project are engineering design that incorporates environmental criteria so that the physical conditions of the Project Area can be tolerated, and thorough planning that includes adherence to regulatory design and fitness standards." Nothing is stated with regard to the importance of training, protocols and clear procedures for all potentially involved personnel. 	 The Proponent should recognize the importance of training, protocols and procedures (including clear roles and responsibilities for key crew members) and incorporate these into mitigation measures related to potential effects of the environment on the Project. The Proponent should commit to engaging experts to deliver training (prior to Project initiation) that is geared to operating in harsh weather environments, including specialized training for technical experts, clear decision-making factors and processes, and unambiguous roles and responsibilities. The Proponent should also commit to developing, implementing and exercising detailed procedures for these conditions.

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale	Specific Question/ Request for Information
		All personnel may not have previously conducted drilling in harsh weather environments similar to those in the North Atlantic. Specialized training and explicit procedures for these conditions may be required to ensure proper decision making and quick and safe disconnect in advance of forecasted weather conditions that may be outside of operating limits.	■ A conservative approach should be employed when establishing FPSO, supply vessel and helicopter operating limits, with consideration also given to ROV launch thresholds to ensure adequate monitoring in the event of an incident. In the EIS, the Proponent should describe the process for identifying and assuring adherence to these thresholds.
29	EIS Section 17.0 Effects of the Environment on the Project, 17.4 Residual Effects Summary	 ■ The Impact Assessment Agency describes the reason proponents are required to undertake an assessment of effects of the environment on the project as follows: "The Impact Statement must consider and describe how environmental conditions, including natural hazards such as severe and/or extreme weather conditions and external events (e.g., earthquakes, flooding, drought, ice jams, iceberg impacts, permafrost conditions, landslides/submarine landslides, tsunamis, volcanoes, avalanches, erosion, subsidence, fire, outflow conditions), could adversely affect the designated project and how this in turn could result in effects to the environment, health, social and economic conditions."	■ The Proponent should extend the identified events (e.g., high wind and wave conditions, iceberg impact with installations) to assess how these may in turn result in effects to the environment (e.g., release of SBM or hydrocarbons resulting from an emergency disconnect).

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale	Specific Question/ Request for Information
		in a shutdown of production or drilling operations for three months or more	
		Project infrastructure is damaged, resulting in repairs that are not technically or economically feasible."	
30	EIS Section 18.4 and EIS Summary Section 9.0 Follow- Up and Monitoring	 The Proponent states the following: "Components of follow-up monitoring included in other offshore production operations include sediment and water sampling, fish taint, benthic community analysis. These components may be included in the follow-up monitoring program for the BdN Development Project." Incorporating similar components across all offshore production follow-up programs provides the most accurate analysis of effects by increasing the overall sample size and opportunities for metadata analysis. 	■ The Proponent should define what components of monitoring will be included for their BdN project and how these are consistent with other programs.
31	Table 18.6 Summary of Environmental Monitoring Programs for Routine Project Activities	 For seabird observations during environmental monitoring programs for routine project activities, the Proponent states the following: "If a SAR (Species at Risk) is found, a report will be sent to ECCC for identification." The Proponent does not distinguish as to whether the bird SAR found is alive (and injured) or deceased. 	■ In the event that an injured SAR is found, the Canadian Wildlife Service (CWS) should be contacted immediately for further guidance on appropriate actions.

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale	Specific Question/ Request for Information

Table 1: Review of Bay du Nord Development Project Environmental Impact Statement

Comment Number	Reference to EIS (Section)	Context and Rationale	Specific Question/ Request for Information
32	Appendix P - Well Intervention Response Strategies, 3.3 Mobilization and Duration	■ The Proponent states the following: Oil Spill Response Limited "(OSRL) does not have Capping Stack System (CSS) in eastern Canada. It is unlikely that having a CSS available in eastern Canada would reduce the overall time to install on a well as a number of activities are required prior to installation from a safety perspective such as site assessments / preparation and debris removal."	■ It is not sufficient for the Proponent to state that it is unlikely that having a CSS available in eastern Canada would reduce the overall time to install a CSS on a well. The Proponent should be required to provide a detailed estimated schedule for response, as has been provided by other Operators offshore NL (e.g., BHP) for exploration programs.
		 Without the Proponent providing a detailed breakdown of schedule, this statement is unsubstantiated. 	
33	Appendix P - Well Intervention Response Strategies, 3.3 Mobilization and Duration	The Proponent indicates that it, "maintains an international vessels of opportunity (VOO) database that identifies vessels that have the capabilities for transport and installation of the CSS."	■ The Proponent should confirm that the list of suitable VOOs will be maintained prior to and throughout the Project and specify at what frequency the list will be updated (e.g., daily, weekly, monthly).
34	Appendix P - Well Intervention Response Strategies, 3.3 Mobilization and Duration	■ With regard to capping stacks and whether response timelines could be reduced by utilizing an air-freightable capping stack, the Proponent states the following: "There have been other recent developments in capping stack technology, name (sic) the Halliburton RapidCap™ system. This is a much smaller version of the OSRL capping stack that can be air freighted in its fully assembled stat. Developments in improved technology are under review by Equinor technical experts and if deemed the optimal solution will be added to Equinor's response technology options."	Should the Proponent deem that an air freightable capping stack is not the optimal solution, it should be required to justify this to the regulator through a detailed response timeline.

4. Conclusions and Recommendations

The review findings summarized in **Table 1** provide comments and questions that KMKNO and ANSMC would like addressed to better understand the potential impacts the Project may have on Mi'kmaw rights and interests, including environmental effects to traditional activities and the quality of life of the Mi'kmaq people. KMKNO and ANSMC welcome the opportunity to work directly with the Proponent on the development of a mutually agreed upon engagement process to prevent potential impacts to the Mi'kmaw rights, fisheries, and traditional and cultural practices for the full lifecycle of this Project.

5. Review Limitations

AECOM relied upon publicly available information as referenced in the report. This report is intended solely for the Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO) and the Assembly of Nova Scotia Mi'kmaq Chiefs (ANSMC). The information herein reflects our best judgment in consideration of information available at the time of preparation. No portion of this report should be used as separate entity, as it is written to be read in its entirety.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, is the responsibility of such third parties. Please refer to the Statement of Qualifications at the beginning of the Report.

6. References

American Petroleum Institute (API):

Guidelines for Offshore Oil Spill Response Plans – API Technical Report 1145, September 2015. Retrieved 2018-01-24 from: http://www.oilspillprevention.org/~/media/oil-spill- prevention/spillprevention/r-and-d/spill-response-planning/1145-e1-final.pdf.

Assembly of Nova Scotia Mi'kmaq Chiefs, n.d:

Mi'kmaq Ecological Knowledge Study Protocol. 2nd Edition. 27 pp.

Canadian Association of Petroleum Producers (CAPP), 2018:

Emergency Planning and Response. Retrieved 2018-01-24 from:

http://atlanticcanadaoffshore.ca/emergency-planning-and-response/.

Canadian Environmental Assessment Agency, 2015:

Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under the Canadian Environment Assessment Act, 2012. 21 pp.

CNOOC Petroleum North America ULC (formerly Nexen Energy ULC), 2018:

Flemish Pass Exploration Drilling Project (2018-2028) Environmental Impact Statement.

https://www.ceaa.gc.ca/050/documents/p80117/122066E.pdf.

Department of Fisheries and Oceans Canada (DFO), 2007:

Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment. Retrieved 2018-01-25 from: http://www.dfo-mpo.gc.ca/oceans/publications/seismic-sismique/indexeng.html.

Department of Fisheries and Oceans Canada, 2011:

The Marine Environment and Fisheries of Georges Bank, Nova Scotia: Consideration of the Potential Interactions Associated with Offshore Petroleum Activities. Can. Tech. Rep. Fish. Aquat. Sci. 2945:xxxv+492pp.

Department of Fisheries and Oceans Canada, 2018:

Review of the Environmental Impact Statements for The Flemish Pass Exploration Drilling Project and the Eastern Newfoundland Offshore Exploration Drilling Project. DFO Can. Sci. Advis. Sec. Sci. Resp. 2018/026. Available online at: http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2018/2018_026-eng.pdf

Equinor Canada Ltd.:

Bay du Nord Development Project Environmental Impact Statement, July 2020. Retrieved 2020-07-30 from: https://iaac-aeic.gc.ca/050/evaluations/document/135549

French-McCay, D., 2016:

Comparison of oil fate and exposure from a deep-sea blowout, with and without subsea dispersant injection treatment. 2016 Clean Gulf Conference, Tampa. Available at:

http://www.cleangulf.org/paperarchive/#results. Accessed October 2018.

Griffiths, J. R., M. Kadin, F.J. Nascimento, T. Tamelander, A. Törnroos, S. Bonaglia, E. Bonsdorff, V. Brüchert, A. Gårdmark and M. Järnström, 2017:

The importance of benthic–pelagic coupling for marine ecosystem functioning in a changing world. Global Change Biology 23:2179-2196. doi: 10.1111/gcb.13642

Halliburton, 2018:

Well Control and Prevention Services – Global Rapid Intervention Package. Retrieved 2018-01-25 from: http://www.halliburton.com/public/project_management/contents/Data_Sheets/web/global-rapid-intervention-package.pdf.

Kavanagh et al., 2019:

Seismic Surveys Reduce Cetacean Sightings Across a Large Marine Ecosystem. 2019. Retrieved 2020-09-02 from: https://www.nature.com/articles/s41598-019-55500-4.

Nexen Energy ULC, 2018:

Flemish Pass Exploration Drilling Project (2018-2028) Environmental Impact Statement. Report prepared by Amec Foster Wheeler. Project No. TF1693501.

NSOAA, 2009:

Nova Scotia Office of Aboriginal Affairs, Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia. 2012. Retrieved from: http://novascotia.ca/abor/office/what-we-do/consultation/. Last modified: 2015-06-01. 12 pp.

Roberts, L., S. Cheesman, M. Elliott and T. Breithaupt, 2016:

Sensitivity of Pagurus bernhardus (L.) to substrate- borne vibration and anthropogenic noise. Journal of Experimental Marine Biology and Ecology, 474: 185-194. ISSN 0022-0981, doi.org/10.1016/j.jembe.2015.09.014

Unama'ki Institute of Natural Resources (UINR), 2020:

Review of the Equinor Canada Ltd. Central Ridge Exploration Drilling Program Abridged EIS. Prepared for Kwilmu'kw Mawklusuagn Negotiation Office (KMKNO).

Weilgart, L., Okeanos Foundation. 2013:

A Review of the Impacts of Seismic Airgun Surveys on Marine Life. 2013. Retrieved 2020-09-02 from: https://www.cbd.int/doc/meetings/mar/mcbem-2014-01/other/mcbem-2014-01-submission-seismic-airgunen.pdf.

Wolfaardt, A.C., A.J. Williams, L.G. Underhill, R.J.M. Crawford and P.A. Whittington, 2009:

Review of the rescue, rehabilitation and restoration of oiled seabirds in South Africa, especially African penguins Spheniscus demersus and Cape Gannets Morus capensis, 1983–2005. African Journal of Marine Science, 31: 31-54.



Appendix A

Table A-1 List of Acronyms and Abbreviations

Table A-1: List of Acronyms and Abbreviations

Acronym Definition

Accord Acts Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador

Act and the Canada-Newfoundland Atlantic Accord Implementation Act

AECOM Canada Ltd.

ANSMC Assembly of Nova Scotia Mi'kmaq Chiefs
Agency Impact Assessment Agency of Canada

BdN Core Bay du Nord
BOP Blowout Preventer

C-NLOPB The Canada-Newfoundland and Labrador Offshore Petroleum

CEAA 2012 Canadian Environmental Assessment Act, 2012

CSS Capping Stack System
CWS Canadian Wildlife Service
DFO Fisheries and Oceans Canada
EA Environmental Assessment

EBSA Ecologically and Biologically Significant Areas

EEZ Exclusive Economic Zone

ECCC Environment and Climate Change Canada

EIS Environmental Impact Statement

EL Exploration Licence

EPP Environmental Protection Plan
FSC Food, social and ceremonial
ICP Indigenous Communication Plan

IFCP Indigenous Fisheries Communication Plan

IPP Indigenous Participation Plan

IPTT Interval Pressure Transient Testing

LAA Local Assessment Area

Km Kilometre

KMKNO Kwilmu'kw Maw-klusuaqn Negotiation Office

MARPOL International Convention for the Prevention of Pollution from Ships

m Metre

MEKSP Mi'kmaq Ecological Knowledge Study Protocol

MMO Marine Mammal Observer

MODU Mobile Offshore Drilling Unit

NAFO Northwest Atlantic Fisheries Organization

NL Newfoundland and Labrador

nm Nautical Mile

OSRL

PAM Passive Acoustic Monitoring
PSVs Platform Supply Vessels
RAA Regional Assessment Area

ROV Remotely Operated Vehicle

SARA Species At Risk Act

SDL Significant Discovery Licence

WBM Water-based mud