

Canadian Environmental Assessment Act

Environmental Assessment Track Report

Newfoundland LNG Limited

Grassy Point Liquefied Natural Gas (LNG) Transshipment and Storage
Terminal

CEAR Reference Number: 07-03-26546

Grassy Point, Placentia Bay, NL

Submitted to:

The Minister of the Environment
Pursuant to Subsection 21(2) of the *Canadian Environmental Assessment Act*

Prepared by:

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1.0 Introduction

1.1 Purpose of Document

Transport Canada (TC) and Fisheries and Oceans Canada (DFO) are conducting an environmental assessment, pursuant to the *Canadian Environmental Assessment Act* (CEAA), of the proposed Liquefied Natural Gas (LNG) transshipment and storage terminal located at Grassy Point, Placentia Bay, Newfoundland and Labrador. TC and DFO have determined that their respective departments have a responsibility to conduct an environmental assessment on aspects of the proposed development pursuant to paragraphs 5(1)(c) & (d) of the CEAA. Each of the two RAs has scoped a different project, however, both projects are subject to a comprehensive study. Since there is overlap between the project, as scoped by DFO, and the project, as scoped by TC, and both projects require a comprehensive study, it was determined that only one scoping document and one Environmental Assessment Track Report would be prepared to meet the requirements under CEAA.

Consistent with the requirement of paragraph 21(2)(a) of CEAA, this report describes:

- the scopes of the project;
- the factors to be considered and the scope of these factors;
- public concerns in relation to the project;
- the potential of the project to cause adverse environmental effects, and;
- the ability of the Comprehensive Study process to address issues related to the project.

The information contained within this report, and the recommendations to the Minister of the Environment provided under paragraph 21(2)(b) from the RAs, are intended to assist the Minister of The Environment in making a determination under subsection 21.1(1) whether to continue the EA by means of a Comprehensive Study, or to refer to a mediator or review panel in accordance with section 29 of CEAA.

1.2 Project Summary

Newfoundland LNG Limited proposes to develop a Liquefied Natural Gas (LNG) Transshipment and Storage Terminal at Grassy Point, Placentia Bay, NL. The facility will provide LNG to markets in the northeastern United States (US) and Canada. The Grassy Point LNG Transshipment and Storage Terminal will provide facilities for LNG cargo transfer, LNG storage, and a lay-up site for transiting LNG carriers. The marine facility will provide storage and loading capabilities for smaller or specialized LNG carriers that are able to enter most LNG terminal ports in the US.

Newfoundland LNG Ltd. will operate as a component of the LNG delivery chain, providing transshipment and storage services for clients with pre-existing supply arrangements. All of the Newfoundland LNG Ltd. customers will be responsible for obtaining their own LNG supply. It is expected that all clients have equity gas or have

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long-term supply arrangements with third-party producers or otherwise be engaged in LNG shipping.

The proposed development involves the construction, operation, and eventual decommissioning of:

- A marine terminal comprised of three jetties with berthing capability for LNG tankers up to 265,000 m³;
- a tug basin;
- eight 160,000 m³ gross capacity LNG storage tanks, and;
- supporting infrastructure including an access road, office facilities, security fencing, and utilities such as water, sewer, and power.

The proposed tank site is partially tree covered with shallow overburden. Trees will be cut with all merchantable timber salvaged. Overburden will be graded from the site and trucked to stockpiles. The stockpiles will be trimmed, levelled, reclaimed, and redeposited over developed areas in the future. Site development will require the excavation and blasting of rock, which will be deposited in fill areas to complete site grading.

The construction of the three berths will be phased in over the duration of the development. The berths will extend to a water depth of approximately 15 m and will not require dredging. A single berth will be initially constructed, followed by additional berths as the LNG demand increases. Each berth will be constructed similarly and will consist of a service platform, mooring dolphins, berthing dolphins, access trestle connecting the loading platform to the shore, walkways connecting the mooring and the berthing dolphins, and associated LNG pipelines. The service platform will be equipped with fixed loading arms to facilitate loading and unloading of LNG. The on-water footprint of the marine structures will encompass a water lot boundary running southwest approximately 2,250 m from the eastern boundary of the existing Newfoundland Transshipment Limited (NTL) boundary. The boundary will then turn southeast and extend approximately 700 m terminating at the southern most point of land at Adams Head, NL. Each berth will be equipped with spill containment equipment, fire fighting equipment, and fire monitors.

A dedicated tug basin will also be incorporated into the build out plan. The proposed tug basin will require a minimum of 7 m water depth and be capable of berthing up to three tugs. Dredging may be required for the tug basin with all dredged material being disposed of on land, in accordance with provincial regulations. The preliminary footprint of the infill area for the tug basin will be approximately 19,180 m³ and will be constructed from washed rock from a licensed quarry operation.

The storage tanks and interconnecting pipeline will be located on land adjacent to the marine facilities. There will be no requirement for a regasification facility or any significant vapourization from this facility. In total, the eight storage tanks will have a maximum storage capacity of 1.3 million m³ of LNG. The LNG storage tanks will be a

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single containment design. The size and design was selected to ensure compatibility with the majority of the LNG vessel fleet currently in operation globally. The single containment tanks are the most common in the Americas and normally consist of a stainless steel inner tank and a carbon steel or reinforced concrete outer tank. The tanks will be surrounded by a dyke impoundment sized to accommodate 100 percent of the tank's volume.

The tanks will be erected on foundations designed to preclude thermal frost heave either with the design of an air-gap foundation or use of a heated pad. The materials will be brought to the site via a construction dock in pre-assembled pieces as large as can be accommodated by barge and the site. A small pond within the tank area footprint will be infilled to accommodate construction of the storage tanks.

A 1.5 km access road will be constructed to transport equipment, materials, and personnel from Arnolds Cove to the site. The road will be a minimum width of 6 m with 1 m shoulders. Access will become secure and restricted at the Grassy Point LNG gatehouse. Perimeter fencing will be a 2.4 m high galvanized chain-link fence topped with three strands of barbed wire. Potable water will be achieved by an on-site drilled artesian well or, if sufficient water cannot be found on site, a domestic water line can be linked to the existing water service to the Town of Arnolds Cove. A self-contained sanitary sewer system will be installed at the facility and serviced by a local contractor, as per provincial regulations.

During construction, it is anticipated that 300 to 400 people will be employed at the site. During peak operation, approximately 125 people will be employed at the LNG transshipment and storage facility.

In the initial years of operation, it is anticipated that approximately 150 – 200 vessels will enter Placentia Bay destined for the LNG facility. During the later stages of operation this number will increase up to 400 vessels per year. The marine terminal will be operational prior to the storage tanks therefore the operation will likely include the ship-to-ship transfer of LNG between vessels docked parallel to each other at a single berth. This type of product transfer is not currently used elsewhere and utilizes new technology.

2.0 Environmental Assessment Process

2.1 Regulatory Background

The Canadian Environmental Assessment Agency (Agency) received formal notification of the development proposal from the proponent on November 23, 2006, and pursuant to the *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements*, the Agency notified Federal Authorities of the development proposal to determine their potential roles in the environmental assessment. The notice was sent to DFO, TC, Environment Canada (EC), Natural Resources Canada (NRCan), Industry Canada, and Health Canada (HC). By December 15, 2006, DFO and TC had identified as Responsible Authorities and EC, NRCan and HC as Federal

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Authorities with specialist expertise. In accordance with Section 12.4 of the CEAA, the Agency is the Federal Environmental Assessment Coordinator (FEAC) for the comprehensive study.

Under section 5 of the CEAA, a federal environmental assessment may be required when, in respect of a project, a federal authority proposes to:

- Be the proponent;
- make or authorize payment or any other form of financial assistance to a proponent;
- sell, lease or otherwise dispose of land; or
- issue a permit, or licence or other form of approval pursuant to a statutory or regulatory provisions identified in the *Law List Regulations*.

These functions are known as triggers. TC's responsibility to ensure an assessment is conducted is related to: 1) The issuance of a permit, license, or other approval that is included in the *Law List Regulations* made pursuant to the CEAA, and; 2) a portion of the development proposal is located within a federally owned harbour administered by Transport Canada. Details are as follows:

- TC may issue an approval pursuant to subsection 5(1) of the *Navigable Waters Protection Act* to allow for interference to navigation associated with the construction, operation, modification, decommissioning, and/or abandonment of the marine terminal (three (3) berths with service platforms, dolphins, trestle/walkway, and piles), and the tug basin.
- TC may lease a portion of waterlot within the harbour of Placentia Bay that is administered by Transport Canada to enable the construction and operation of the marine infrastructure.

DFO's responsibility to ensure an assessment is conducted is related to the issuance of a permit, license, or other approval that is included in the *Law List Regulations* made pursuant to the CEAA. Details are as follows:

- DFO may issue an authorization pursuant to subsection 35(2) of the *Fisheries Act* for the harmful alteration, disruption, or destruction of fish habitat associated with the construction of the marine terminal (three (3) berths with service platforms, dolphins, trestle/walkway and piles) and infilling and dredging of marine fish habitat for the tug basin and infilling of freshwater fish habitat in the footprint of the storage tanks as well as stream crossings for the access road.

Therefore, TC and DFO are Responsible Authorities (RAs) due to their decision-making responsibilities relative to the above components and must ensure that an environmental assessment pursuant to the CEAA is conducted. Additionally EC, HC, and NRCAN will participate in the environmental assessment process as expert Federal Authorities (FAs).

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Each department will provide specialist knowledge, information, and related support to the environmental assessment process.

This Environmental Assessment Track Report was prepared jointly by TC and DFO to fulfill the requirements of subsection 21(2) of the CEAA.

2.2 Newfoundland & Labrador *Environmental Protection Act* Process

A registration document prepared by the Proponent was submitted to the Newfoundland & Labrador Department of Environment and Conservation on November 23, 2006 as required for the Newfoundland and Labrador *Environmental Protection Act*. This document, “*Environmental Assessment Registration: Grassy Point Liquefied Natural Gas (LNG) Transshipment and Storage Terminal*” contains a full description with a depiction of the biophysical environment. The document can be viewed at the following website: <http://www.env.gov.nl.ca/env/Env/EA%202001/Project%20Info/1304.htm>.

The information provided by the proponent in this document was utilized for both the provincial and federal environmental assessment processes.

On January 19, 2007, the provincial Minister of Environment and Conservation announced that the proposal would be released from further provincial environmental assessment subject to several conditions. These conditions state that the proponent prepare and submit an Employment Equity Plan, a Risk Assessment Study, and an Environmental Protection Plan to the Minister of Environment and Conservation prior to start of construction. Since further provincial assessment is not required there is no need for federal-provincial harmonization with respect to the EA process.

3.0 Scope of Project

The scopes of the project include physical works related to the construction, operation, modification, and decommissioning/abandonment of the proposed component of the proposal and related undertakings. Each of the two RAs has scoped a different project, however, both projects are subject to a comprehensive study. Since there is overlap between the project, as scoped by DFO, and the project, as scoped by TC, and both projects require a comprehensive study, it was determined that only one scoping document and one Environmental Assessment Track Report would be prepared to meet the requirements under the CEAA.

The RAs prepared a document entitled; “*Scoping Document – Newfoundland LNG Limited – Grassy Point Liquefied Natural Gas (LNG) Transshipment and Storage Terminal*” dated March 14, 2007. This scoping document (Appendix A) includes information on the proposed scopes of the project, factors to be considered, and the scope of those factors. The scoping document was made available for review and comment by the public as per subsection 21(1) of the CEAA for a 40-day period from March 19, 2007 to April 27, 2007.

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The environmental assessment of the LNG Transshipment and Storage Terminal will assess the following components;

- construction of the marine terminal (three (3) berths with service platforms, dolphins, trestle/walkway and piles);
- construction of tug berth.
- construction and installation of eight LNG storage tanks and associated pipelines;
- stream crossings for access road requiring authorizations under the Fisheries Act, and;
- infilling of water bodies in footprint of the storage tanks.

The “Project” hereafter refers to all the physical works and activities associated with the construction, operation, and decommissioning (including closure and reclamation) of the proposed development as outlined above.

The scope of the assessment defines the factors that must be considered in the environmental assessment and the scope of those factors. The RAs are required to consider the factors specified in Section 16 of the CEAA, taking into consideration the definitions of the environment, environmental effect, and project. The scope of those factors pursuant to Section 16 is determined by the RAs. The Scoping Document outlines the scopes of project and the scope of the assessment proposed by the RAs for the Project.

4.0 Requirement for a Comprehensive Study

Certain components of the Project are subject to the following provisions of the Comprehensive Study List Regulations of the CEAA:

13. *The proposed construction, decommissioning, or abandonment, or an expansion that would result in an increase in production capacity of more than 35 per cent of*
 - (d) *a facility for the liquefaction, storage, or regasification of liquefied natural gas, with a liquefied natural gas processing capacity of more than 3 000 t/d or a liquefied natural gas storage capacity of more than 50 000 t.*

And

28. *The proposed construction, decommissioning, or abandonment of*
 - (c) *a marine terminal designed to handle vessels larger than 25 000 dead weight tonne (DWT) unless the terminal is located on lands that are routinely and have been historically used as a marine terminal or that are designated for such use in a land-use plan that has been the subject of public consultation.*

Accordingly, TC has determined that a comprehensive study is required for the marine terminal and LNG storage tanks given the strong operational interconnectedness between these two project components. DFO has determined that a comprehensive study is required for the marine terminal component of the Project. The RAs, in consultation with the FAs and the Agency, have determined that the Project is subject to a Comprehensive Study pursuant to the *CEAA*.

5.0 Public Participation During the Comprehensive Study Process

5.1 Public Consultation

CEAA requires that public consultation be conducted a minimum of three times during a comprehensive study;

- during the preparation of the scoping document [subsection 21(1)];
- during a review of the completed Comprehensive Study Report (CSR) prior to the Minister of the Environment's issuance of an environmental assessment decision statement (section 22), and;
- at another unspecified point in the process, to provide an opportunity, in addition to those provided in sections 21(1) and 22, to participate (section 21.2).

The public consultation process, as outlined under subsection 21(1) of the CEAA, sought public comments on the environmental assessment scoping document for the proposed LNG transshipment and storage facility at Grassy Point, Placentia Bay, NL. The scoping document was prepared by the RAs and included information on the purpose of the document, the environmental assessment process, opportunities for the public to make comments and other public participation opportunities.

In relation to the scoping document, the following public consultation and communication initiatives were undertaken:

- Information on the environmental assessment is publicly available on the Canadian Environmental Assessment Registry (CEAR) website. The CEAR reference number for this Comprehensive Study is 07-03-26546. The CEAR includes the Notice of Commencement, the notice regarding the opportunity for public comment on the scoping document, and the notice advising on the availability of participant funding.
- Notices advising of the public comment period on the scoping document were placed in the following newspapers: The Telegram, The Clarendville Packet, The Placentia Charter, and La Gaboteur. The notices provided information on the public comment period, how to obtain a copy of the scoping document, the availability of participant funding, and how to provide feedback.

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- Copies of the scoping document were also made available for viewing at the Come By Chance Town Office, Arnolds Cove Town Office, Southern Harbour Town Office, and the Placentia Town Office.

In addition to the public notices, copies of the scoping document were forwarded to key stakeholders prior to advertising public notices. These stakeholders included the following:

- Town of Come By Chance;
- Town of Arnolds Cove;
- Town of Sunnyside;
- Town of Placentia
- Harbour Authority of Arnolds Cove;
- Harbour Authority of Davis Cove;
- Harbour Authority of Fair Haven;
- Harbour Authority of Garden Cove;
- Harbour Authority of Mount Arlington Heights;
- Harbour Authority of North Harbour;
- Harbour Authority of Placentia Area;
- Harbour Authority of Ship Harbour;
- Harbour Authority of Southern Harbour;
- Harbour Authority of St. Brides;
- Fish, Food and Allied Workers Union;
- One Ocean Corporation;
- Sierra Club of Canada – Northeast Avalon Chapter;
- Newfoundland and Labrador Department of Fisheries and Aquaculture, and;
- Newfoundland and Labrador Department of Environment and Conservation.

The public and key stakeholders were invited to comment on the following specific points during the consultation period which ran from March 19, 2007 to April 27, 2007: 1) The proposed scopes of the Project for purposes of environmental assessment; 2) the factors proposed to be considered in the assessment; 3) the proposed scope of those factors; and 4) the ability of the comprehensive study to address issues relating to the Project.

In addition to the public consultation required under CEAA, the proponent conducted two Open Houses in the communities of Come By Chance and Arnold's Cove in December 2006. The proponent also conducted Open Houses in the communities of Clarenville, Southern Harbour, Arnold's Cove, Sunnyside, and Come By Chance between May 22, 2007 and May 24, 2007. Additional meetings will be held with concerned fishers at a later date to avoid peak fishing periods.

5.2 Public Comments

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The RAs received fourteen (14) written submissions on the proposed scopes of the environmental assessment of the Project. Submissions were received from private citizens, interest groups, municipal councils, private businesses, the Newfoundland and Labrador Department of Fisheries and Aquaculture (DFA), One Ocean (a commercial fishery – offshore oil & gas industry liaison organization), and the Fish, Food, and Allied Workers Union (FFAW) who represent fishers in the region. A breakdown of the submissions are summarized in Table 1:

Table 1: Breakdown of comments/concerns received during the public consultation period on the Scoping Document and the RA's Responses for the proposed LNG Transshipment and Storage Terminal at Grassy Point, Placentia Bay, NL (CEAR Ref. No. 07-03-26546).

General Comments	Specific Concerns	RA's Response
Increased Tanker Traffic	Safety concerns (i.e. collisions); Displacement of fishers; Loss of fishing gear; Impact on aquaculture.	<ul style="list-style-type: none"> • The increase in marine traffic will be assessed as a cumulative effect within Placentia Bay. In accordance with the <i>CEAA</i>, the comprehensive study will take into account the local circumstances and any cumulative environmental effects that may result from the Project in combination with other projects and activities that have been, or will be carried out. • The proponent must adhere to the Collision Regulations under the <i>Canada Shipping Act</i>. The proponent must comply with these regulations as part of normal operations. • Under the <i>CEAA</i>, factors to be considered include the effects on the environment as a result of the Project that may impact social and economic conditions.
Loss of Fishing Grounds (Marine Infrastructure)	Fish Habitat Compensation; Displacement of fishers; Monetary Compensation from proponents.	<ul style="list-style-type: none"> • The proponent will be responsible for quantifying fish habitat losses and preparing a fish habitat compensation strategy and plan to compensate for lost productivity of freshwater and marine fish habitat in accordance

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		<p>with DFO’s “No Net Loss” guiding principle of the Policy for the Management of Fish Habitat. The fish habitat compensation strategy will have to be developed and approved before the EA process can be completed. Details of the compensation strategy will be incorporated into the final EA document. Note: Compensation here refers to habitat compensation for loss of physical fish habitat due to construction of project infrastructure only, and not financial compensation for fishers for lost access to fishing grounds, etc.</p> <ul style="list-style-type: none"> • Under <i>CEAA</i>, factors to be considered include the effects on the environment that may impact social and economic conditions. • The issue of monetary compensation is outside the EA process and will have to be determined between the proponent and displaced fishers.
<p>Safety/Exclusion Zones</p>	<p>Potential interruptions to existing operations within Placentia Bay due to the implementation of safety or exclusion zone around LNG tankers and facility.</p>	<ul style="list-style-type: none"> • The proponent has indicated its intent to participate in a TERMPOL Review Process (TRP). TERMPOL refers to the Technical Review Process of Marine Terminal Systems and Transshipment Sites. The TRP focuses on the dedicated design ship’s selected route in waters under Canadian jurisdiction to its berth at a proposed marine terminal or transshipment site and, specifically, to the process of cargo handling between vessels, or off-loading from ship to shore or vice-versa. The TRP will be conducted parallel to the <i>CEAA</i> process and will provide a key

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		<p>source of information.</p> <ul style="list-style-type: none"> • The development and setting of Exclusion/Safety zones will take into account the movement of other vessels and the risk of collision, the gaseous plume that would occur as the result of an accidental loss of product, and the safety of the LNG carrier and other vessels in the operating area.
<p>Potential for Spills</p>	<p>Need for additional spill response equipment;</p> <p>Need for better spill response training.</p> <p>Potential impacts on marine environment, seabirds, traditional fishing, and aquaculture.</p>	<ul style="list-style-type: none"> • The proponent must adhere to the Environmental Emergency (E2) Regulations under the <i>Canadian Environmental Protection Act (CEPA)</i>. LNG is a substance listed on Schedule 1 of the E2 regulations therefore a mandatory assessment of environmental effects is required and should reflect a consideration of plausible worst-case scenarios and attention to site-specific conditions and sensitivities. In addition, an environmental emergency plan will be required. • This will be considered in the Accidents and Malfunctions analysis that is included in the Comprehensive Study, and is a requirement of the <i>CEAA</i>. • The proponent must adhere to the Oil Pollution Prevention Regulations under the <i>Canada Shipping Act</i>. Sections 660.2 and 660.3 of these regulations detail the required equipment, need for response organization and oil pollution emergency response plan, and an oil pollution prevention plan. The proponent must comply with these regulations as part of normal operations.

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<p>Lack of adequate equipment in Placentia Bay</p>	<p>Need for larger tugs able to handle larger vessels;</p> <p>Need for additional pilots and pilot boats to manage increase in traffic.</p>	<ul style="list-style-type: none"> • The need for additional infrastructure in Placentia Bay will be considered in the EA considering existing legislation/regulations and in relation to the cumulative effects of the Project. • In addition, this will be considered in the Accidents and Malfunctions analysis in the Comprehensive Study, and is a requirement of CEAA.
<p>Introduction of Alien Invasive Species</p>	<p>Extraction of bilge waters and hull cleaning procedures.</p>	<ul style="list-style-type: none"> • Dumping of bilge water must be conducted in accordance with the Ballast Water Control and Management Regulations and the Garbage Pollution Prevention Regulations under the <i>Canada Shipping Act</i>, which include measures to protect against alien invasive species. The proponent must comply with these regulations as part of normal operations.
<p>Other Comments</p>	<p>Need for baseline monitoring program to establish the environmental conditions at the proposed project site.</p> <p>Potential ignition of LNG and resulting explosion.</p> <p>Cumulative Environmental Effects</p>	<ul style="list-style-type: none"> • The proponent is fully engaged in several baseline studies and sampling programs at the project site to ensure an accurate description of the existing biophysical environment. • The proponent has conducted a risk assessment associated with the facility that will be referenced within the accidents and malfunctions section of the environmental assessment report. • In accordance with the <i>CEAA</i>, the comprehensive study will take into account the local circumstances and any cumulative environmental effects that may result from the Project in combination with other projects

		and activities that have been, or will be carried out.
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5.3 Public Participant Funding Program

Through its Participant Funding Program, the Agency has allotted a total of \$50,000 dollars for individuals/groups wishing to become involved in the EA process for the proposed Project. Three applications were submitted to the Agency.

6.0 Scope of the Environmental Assessment

“Scope of the environmental assessment” is defined as the scope of the project for the purposes of environmental assessment, the factors that are to be examined as part of the environmental assessment, and the scope of the factors.

Upon review of the public comments received on the scoping document, the RAs have decided to leave the scopes of this environmental assessment and the factors to be considered unchanged because the primary concerns were listed within the scoping document. The Valued Ecosystem Components (VECs) will be determined by the RAs and FAs, taking into account the comments received. The VECs will focus the environmental assessment. Concerns raised by the public will be taken into account during the comprehensive study process, as will any public concerns raised in future consultations planned to take place while the environmental assessment is underway.

7.0 Potential Of The Project To Cause Adverse Environmental Effects

In order to evaluate the potential environmental effects of the Project, the RAs have used professional judgment, input from FAs, existing technical information, and input received during the public comment period on the scoping document. It is anticipated that the environmental effects listed in Table 2 could occur should mitigative measures not be put in place.

Table 2: Potential for the Project to Cause Adverse Environmental Effects

Valued Ecosystem Components	Potential Environmental Effects
Water Quality	<ul style="list-style-type: none"> • potential oil spills and extraction of bilge waters could contaminate waterbodies (marine and freshwater).
Freshwater and Marine Fish and Fish Habitat	<ul style="list-style-type: none"> • change in the productive capacity of aquatic systems; • harmful alteration, disruption or destruction of fish habitat including spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly

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	in order to carry out their life processes.
Aquaculture/Commercial Fisheries	<ul style="list-style-type: none"> • change/degradation of the productive capacity of aquatic systems; • interferences between bulk carriers, commercial fisheries, and aquaculture sites.
Migratory Birds	<ul style="list-style-type: none"> • direct or indirect migratory bird mortality; • negative interactions between migratory birds and bulk carriers.
Species at Risk	<ul style="list-style-type: none"> • Species at Risk in the immediate area that may be impacted by the project includes: Blue Whale (Atlantic Population); the North Atlantic Right Whale; the Red Crossbill (perca subspecies); and the Monarch Butterfly. • direct or indirect mortality of Species at Risk.
Marine Mammals	<ul style="list-style-type: none"> • negative interactions between migratory marine mammals and increased marine traffic.
Marine Safety	<ul style="list-style-type: none"> • construction and operation of marine terminal may limit or restrict navigability.
Human Health & Safety	<ul style="list-style-type: none"> • interactions between bulk carriers, fishers, aquaculturists, and recreational boaters.

8.0 Potential Cumulative Effects

The Project also has the potential to generate cumulative environmental effects. A cumulative effects assessment for the Project will be undertaken in accordance with the framework for considering these effects pursuant to current *CEAA* guidelines. The cumulative effects assessment is required to evaluate the likely cumulative effects that may result in combination with other projects or activities that have been or will be carried out in the foreseeable future.

The likelihood of excessive cumulative effects associated with the Project is relatively high in Placentia Bay because there is considerable industrial infrastructure in the area. This includes an existing oil refinery at Come By Chance, an existing oil transshipment facility at Whiffen Head, a proposed Crude Oil Refinery and Marine Terminal at Southern Head, and a proposed nickel processing facility at Long Harbour. The majority of this development is located at the head of Placentia Bay, NL.

In addition to the industrial activity in Placentia Bay, there are currently more than 600 fishing vessels operating in the waters of Placentia Bay. The majority of these vessels are

less than 35 feet in length. Also, the aquaculture industry is expanding in Placentia Bay. Given the existing activity, the proposed increase in marine traffic will potentially create a significant cumulative effect within Placentia Bay, NL.

9.0 Potential Accidents and Malfunctions

The environmental assessment will also consider the potential for accidents and malfunctions that could occur during any phase of the Project. This includes an evaluation of the likelihood and circumstances under which these events could occur, and the environmental effects that may result from such events. Currently, TC is conducting a South Coast Risk Assessment Study related to shipping along the south coast. The purpose of this study is to evaluate the potential risk for accidents and malfunctions related to vessel traffic along the south coast. Accidents and malfunctions could potentially impact traditional fishing grounds, aquaculture sites, marine bird colonies, and marine mammals located along the established traffic lanes.

Also, LNG is listed on Schedule 1 of the Environmental Emergency (E2) Regulations. Therefore there is a mandatory requirement to assess the environmental effects of accidents and malfunctions related to the potential release of substances controlled under the E2 Regulations.

10.0 Ability Of The Comprehensive Study To Address Issues Related To The Project

Taking into consideration the public comments received during the initial public consultation period, there does not appear to be any strong opposition to the scope of the comprehensive study as proposed.

Therefore, the RAs are of the opinion that a Comprehensive Study can address the scientific and technical issues related to the Project based on the parameters defined within the VECs. Technical experts from the federal departments involved in the environmental assessment will be fully engaged in reviewing and examining the issues related to the Project.

The RAs, in consultation with the Agency and expert FAs have concluded that a Comprehensive Study can effectively address issues related to this Project and are recommending that the environmental assessment process continue as a Comprehensive Study.

APPENDIX A

Scoping Document

Newfoundland LNG Limited

LNG Transshipment & Storage Terminal

CEAR Reference Number: 07-03-26456

Grassy Point, Placentia Bay, NL