

Canadian Environmental Assessment Act

Environmental Assessment Track Report

Newfoundland & Labrador Refining Corporation

Crude Oil Refinery & Marine Terminal

CEAR Reference Number: 07-03-24726

Southern Head, Placentia Bay, NL

Submitted to:

The Minister of the Environment

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

Prepared by:

Transport Canada
Fisheries and Oceans Canada

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1.0 Introduction

1.1 Purpose of Document

Transport Canada (TC) and the Department of Fisheries and Oceans Canada (DFO) are conducting an environmental assessment, pursuant to the *Canadian Environmental Assessment Act* (the Act), for the proposed crude oil refinery and marine terminal located at Southern Head, Placentia Bay, Newfoundland and Labrador. TC and DFO have determined that their respective departments have a responsibility to conduct an environmental assessment of the proposed project pursuant to paragraphs 5(1)(c) & (d) of the Act. The purpose of this document is to assist the Minister of the Environment in making a determination whether to continue the environmental assessment of this project as a Comprehensive Study or to refer to a mediator or review panel.

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 and Labrador Refining Corporation (NLRC – the proponent) proposes to construct, operate and eventually decommission a 300,000 barrels per day (bbl/d) refinery that could be expanded to 600,000 bbl/d at some future date. The proponent proposes to locate the refinery at Southern Head, between North Harbour and Come-by-Chance Harbour, at the head of Placentia Bay, Newfoundland and Labrador. Although there is considerable industrial activity in this area of Placentia Bay, Southern Head is a greenfield site.

The refinery infrastructure will include the process facilities, marine facilities, storage tanks, access road, transmission lines, pipelines, water treatment facility, desalination plant, and utilities. The refinery will process imported medium and heavy, high sulphur crude oils into fuel products suitable for the export market. The main products of the refinery will be gasoline, kerosene/jet fuel, and Ultra-low Sulphur Diesel with by-products including Liquefied Petroleum Gas (LPG - C3/C4), Sulphur and Petroleum Coke.

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The area required for the refinery site is approximately 5 km², with a portion of the refinery footprint covering a bog, streams, and ponds. The two-lane access road is approximately 8 km in length, and will cross the Come-By-Chance River (a scheduled Atlantic Salmon river) with a single span bridge. All other stream crossings will be via bridges or culverts.

The refinery will have a tank farm storage volume of 1.1 million barrels of crude oil and 620,000 barrels of product. This will accommodate 21 days of crude feed storage and 14 days of product storage. The tank storage area will be dyked and lined to provide containment in the case of an accidental spill and to prevent hydrocarbon escape into the surrounding environment.

The proposed water supply for the refinery is a system of ponds and drainage basin to the north and east of the potential expansion. Consideration will be given to impounding by constructing dams and manmade reservoirs if required. If on site freshwater resources are not sufficient, a desalination plant may be constructed on site. Intake and outfall structures will be incorporated into the marine construction for the jetty where possible. Consideration will also be given to developing groundwater for potable water which may require less treatment and reduce capital and operating costs. Desalinated seawater will be used for cooling water where required.

The storm water drainage system consists of a network of drains and catch basins interconnected with an underground piping system. This system will handle surface water drainage and all clean water runoff from non-process areas. This water will be discharged to the storm water outfall into Placentia Bay.

The development proposal will require new marine facilities consisting of a heavy lift construction dock, a tug berth, and a marine terminal (causeway, access trestle, jetty (Phase 1) and jetty expansion (Phase 2)). A heavy lift construction dock will be constructed adjacent to the proposed Jetty and will be extended out to provide a minimum 15 m draft at the berth. The tug berth will also be constructed adjacent to the construction dock, and berthing facilities will be provided for three tug vessels. The causeway will form the connection from land out to the jetty trestle and will be constructed using rock fill from site excavations and protected with armour stone. The access trestle will form the connection between the dock and the jetty. A pipe rack will run along side of the roadway to carry electrical and piping facilities. The Phase 1 jetty will consist of the construction of two vessel berths connected to the access trestle. The northern berth will be designed to accommodate vessels ranging in size up to 150,000 dead weight tones (DWT). The southern berth will be designed to accommodate vessels ranging in size up to 350,000 DWT. The berths will have mooring dolphins and breasting dolphins sized to accept the full range of vessels expected at the berths. The Jetty structures will be connected to the causeway and access trestle. The Jetty expansion will consist of the construction of a jetty connected to and south of the Phase 1 Jetty, and will have two berths. The offloading of crude will be accomplished through import piping

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systems routed along the access trestle and causeway, through the plant to the tank storage areas.

Other construction activities include the leveling of the site, construction of buried utilities, transmission lines, pipelines, process plant infrastructure, and support buildings including administrative and engineering offices, warehouses, maintenance buildings, laboratory, etc.

Initially, the new refinery will be processing 300,000 bbl/day, which will require a total of approximately 400 ships per year and possibly as many as 450 ships per year. Crude delivery will be made in Very Large Crude Carrier (VLCC) tankers (one tanker per week) and/or in Suezmax size tankers (one tanker every 3 days). The Coke (at 5,000 t/day) and Sulphur (at 800-1000 t/day) will be shipped out by bulk carriers of various capacities (10,000 - 50,000 DWT).

The development proposal will be designed for ease of decommissioning. A comprehensive decommissioning plan will be developed, indicating the length of post-decommissioning monitoring based on an assessment of the site and the requirements to restore it to a state that is acceptable with appropriate regulatory authorities. A Rehabilitation and Closure Plan will be developed at the design phase of the project.

The proponent indicates the construction phase of the development is expected to begin by the end of the 2007, with production anticipated to commence in early 2011. The construction phase would require approximately 3,000 employees, while operation of the refinery would require 750 employees. The planned lifespan of the facility is 25 years. A capital investment of greater than \$4.0 Billion US is required for the construction of the facility.

2.0 Environmental Assessment Process

2.1 Regulatory Background

The Canadian Environmental Assessment Agency (the Agency) received formal notification of the project from the proponent on September 12, 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 project to determine their potential roles in the environmental assessment. The notice was sent to DFO, TC, Environment Canada (EC), Natural Resources Canada (NRCan) and Health Canada (HC). By October 16, 2006, DFO and TC had identified as Responsible Authorities and EC, NRCan and HC as Federal Authorities with specialist expertise. In accordance with Section 12.4 of the Act, the Agency is the Federal Environmental Assessment Coordinator (FEAC) for the comprehensive study.

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

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- 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 Act, 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 (causeway, access trestle, jetty (phase 1), jetty expansion (phase 2)), heavy lift dock, tug basin, desalination plant water intake and outfall in the marine environment, and the stream crossing over Come By Chance River.
- TC may lease a portion of waterlot within the harbour of Come By Chance 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 strictly related to the issuance of a permit, license, or other approval that is included in the *Law List Regulations* made pursuant to the Act. 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, operation, modification, decommissioning, or abandonment of the marine terminal (causeway, access trestle, jetty (phase 1), jetty expansion (phase 2)).

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 Act is conducted. Additionally EC, HC, and NRCan will participate in the environmental assessment process as Federal Authorities (FAs). Each department will provide specialist knowledge, information, and related support to the environmental assessment process.

DFO will also likely conduct a separate screening level assessment for *Fisheries Act* Section 35(2) authorizations for the construction, operation, modification, decommissioning, or abandonment for the following project components: heavy lift construction dock, tug berth, dam and intake on the system of ponds; the desalination plant water intake and outfalls in the marine environment; the stream crossing structures;

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drawdown of ponds as a result of water extraction; and the infilling of the streams and ponds within the refinery footprint.

The RAs, in consultation with the FAs and the Agency, have determined that the project is subject to a Comprehensive Study pursuant to CEAA. This Environmental Assessment Track Report was prepared jointly by TC and DFO to fulfill the requirements of subsection 21(2) of the Act.

2.2 Canada – Newfoundland & Labrador Harmonization Process

A registration document prepared by the Proponent was submitted to the Newfoundland & Labrador Department of Environment and Conservation on October 30, 2006 as required for the Newfoundland and Labrador *Environmental Protection Act*. This document, “*Registration Document: Newfoundland and Labrador Refining Corporation, Newfoundland and Labrador Refinery Project*” and was similar to the document submitted to the Agency in September 2006. The document can be viewed at the following website:

<http://www.env.gov.nl.ca/env/Env/EA%202001/Project%20Info/1301.htm>. The information provided by the proponent in these documents was utilized for both the provincial and federal environmental assessment processes.

On December 11, 2006, the provincial Minister of Environment and Conservation announced that an Environmental Impact Statement (EIS) would be required for this project. An EIS is required when significant environmental effects are likely and/or there is significant public concern regarding the proposal. The federal environmental assessment process will be coordinated, to the extent possible, with the provincial EIS process.

Federal representatives from TC, DFO, and EC have been appointed as members on a provincial assessment committee that is developing the EIS guidelines to focus the provincial environmental assessment process. The provincial assessment has scoped the project in its entirety. Federal and provincial public consultation will be coordinated to ensure an efficient process for the proponent and the public. However, the federal and provincial governments will each make decisions on matters within their own legislative authorities.

3.0 Scope

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. Currently, TC and DFO have different scopes related to their regulatory responsibilities however, a single comprehensive study report will be prepared and each RA will have decision-making authority respective to their departmental scopes.

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The RAs prepared a document entitled, “Scoping Document – Newfoundland and Labrador Refining Corporation – Crude Oil Refinery & Marine Terminal” dated January 26, 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 Act for a 24-day period from January 27, 2007 to March 2, 2007.

The environmental assessment process of the Crude Oil Refinery & Marine Terminal will include the following components;

- construction of a stream crossing over Come By Chance River;
- construction of the marine terminal (causeway, access trestle, jetty (Phase I) and jetty expansion (Phase 2)).;
- construction of heavy lift construction dock;
- construction of tug berth.
- installation of desalination plant water intakes and outfalls into marine environment.

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 Act, 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 scope of project and the scope of the assessment proposed by the RAs for the Project.

4.0 Requirement for a Comprehensive Study

The Project is subject to the following provision of the Comprehensive Study List Regulations of the Act:

28. *The proposed construction, decommissioning, or abandonment of*
- (c) *a marine terminal designed to handle vessels 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, a comprehensive study process was initiated for the Project by the RAs.

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 Act, sought public comments on the environmental assessment scoping document for the proposed crude oil refinery and marine terminal at Southern Head, 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 communications initiatives were undertaken:

- Information on the Project and the environmental assessment is publicly available on the Canadian Environmental Assessment Registry (CEAR) website. The CEAR reference number for this project is 07-03-24726. 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 and The Clarenville Packet. The notices provided information on the length of the public comment period, how to obtain a copy of the scoping document, the availability of participant funding, and how to provide feedback.
- Copies of the scoping document were also made available for viewing at the Come By Chance Town Office, Arnolds Cove Town Office, and Sunnyside 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;

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- Town of Arnolds Cove;
- Town of Sunnyside;
- Harbour Authority of Arnolds 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 Southern Harbour;
- Fish, Food and Allied Workers Union;
- 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 January 27, 2007 to March 2, 2007: 1) the proposed scopes of the project for purposes of environmental assessment; 2) the factors proposed to be considered in its assessment; 3) the proposed scope of those factors; and 4) the ability of the comprehensive study to address issues relating to the Project.

5.2 Public Concerns

The RAs received sixteen (16) written submissions on the proposed scope of the environmental assessment of the Project. Submissions were received from fishers operating within Placentia Bay, the Fish, Food, and Allied Workers Union (FFAW) who represent these same fishers, the Newfoundland and Labrador Department of Fisheries and Aquaculture (DFA), and the One Ocean Corporation. 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 Response for the proposed Crude Oil Refinery & Marine Terminal at Southern Head, Placentia Bay, NL (CEAR Ref. No. 07-03-24726).

General Comments	Specific Concerns	RA's Response
Increased Tanker Traffic	Safety concerns (i.e. collisions); Displacement of fishers; Loss of fishing gear; Impact of aquaculture.	• The increase in marine traffic will be assessed as a cumulative effect within Placentia Bay. In accordance with CEAA, 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

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		<p>projects and activities that have been, or will be carried out.</p> <ul style="list-style-type: none"> • 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 CEAA, factors to be considered include the effects on the environment that may impact social and economic effects of the Project. A more detailed analysis of the socio-economic impacts and benefits will be addressed, through the coordinated CEAA/NL EIS process.
<p>Loss of Fishing Grounds (Marine Infrastructure & Anchorages)</p>	<p>Fish Habitat Compensation; Displacement of fishers; Monetary Compensation from proponents.</p>	<ul style="list-style-type: none"> • The proponent will be responsible for preparing a Fish Habitat Compensation strategy and plan to compensate for lost productivity of freshwater and marine fish habitat in accordance with DFO’s “No Net Loss” guiding principle of the Policy for the Management of Fish Habitat. The 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. • Under CEAA, factors to be considered include the effects on the environment that may impact

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		<p>social and economic effects of the Project. A more detailed analysis of the socio-economic impacts and benefits will be addressed through the NL EIS process.</p> <ul style="list-style-type: none"> • The issue of monetary compensation is outside the EA process and will have to be determined between the proponent and displaced fishers.
Potential for Oil Spills	<p>Need for additional oil response equipment;</p> <p>Need for better oil response training.</p> <p>Potential impacts on marine environment, seabirds, traditional fishing, and aquaculture.</p>	<ul style="list-style-type: none"> • This is will be addressed as an Accidents and Malfunctions analysis that is included in the scope of the Comprehensive Study, and is a requirement of CEAA. • 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 details 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.
Lack of adequate equipment in Placentia Bay	<p>Need for larger tugs able to handle larger vessels;</p> <p>Need for additional oil response equipment;</p> <p>Need for better oil response training;</p> <p>Need for additional pilots and pilots boats to manage increase in traffic.</p>	<ul style="list-style-type: none"> • The need for additional infrastructure in Placentia Bay has been identified within the Registration Document and will be addressed in the EA considering existing legislation and regulations. • 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 details the required equipment, need for response organization and oil

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		<p>pollution emergency response plan, and an oil pollution prevention plan. The proponent must comply with these regulations as part of normal operations.</p> <ul style="list-style-type: none"> • In addition, this will be addressed as an Accidents and Malfunctions analysis that is included in the scope of the Comprehensive Study, and is a requirement of CEAA.
Introduction of Alien Invasive Species	<p>Introduction of Tunicate into Placentia Bay</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.
Potential for excess sulfur deposition into marine environment from another refinery.	Impacts of additional sulfur deposition on the marine environment.	<ul style="list-style-type: none"> • In accordance with CEAA, 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. • This could potentially be mitigated through proper design and engineering of the refinery site, which is outside the scope of the federal EA process. A more detailed analysis of the refinery engineering and design will be addressed, through the coordinated CEAA/NL EIS process.
Effluents into marine environment (water intake and outfall into	Impacts on the marine environment.	<ul style="list-style-type: none"> • The proponent will be responsible for preparing a Fish Habitat Compensation strategy and

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<p>marine environment)</p>	<p>Potential contamination from refinery site and its impact on fishery and aquaculture.</p>	<p>plan to compensate for the lost productivity of freshwater and marine fish habitat in accordance with DFO’s “No Net Loss” Guiding Principle of the Policy for the Management of Fish Habitat. The 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: Fish habitat compensation does not apply to deleterious substances/contaminated sites based effects to fish habitat.</p> <ul style="list-style-type: none"> • Potential contamination will be addressed in the Accidents and Malfunctions analysis that is included in the scope of the Comprehensive Study, and is a requirement of CEAA. • Effluent discharge into the marine environment will be regulated under the Petroleum Refinery Effluents Regulations (PRER) of the <i>Fisheries Act</i>.
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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. One application was 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 which 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
Marine Water Quality	<ul style="list-style-type: none"> potential oil spills and extraction of bilge waters could contaminate marine waters.
Sediment Quality and Transport	<ul style="list-style-type: none"> potential oil spills could potentially contaminate marine sediment.
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 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. potential oil spills could potentially harm migratory birds.
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) and the North Atlantic Right Whale; direct or indirect mortality of Species at Risk.

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Marine Mammals	<ul style="list-style-type: none">• negative interactions between migratory marine mammals and increased marine traffic;• potential oil spills could potentially harm marine mammals.
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 addressing 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 present 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 areas. This includes an existing oil refinery at Come By Chance, an existing oil transshipment facility at Whiffen Head, a proposed Liquefied Natural Gas (LNG) storage and transshipment facility at Grassy Point, 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 450 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 study related to shipping along the south coast. The Proponent has been asked to supply shipping information to TC in order that it may be incorporated into the South Coast Risk Assessment Study. 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 birds colonies, and marine mammals located along the established traffic lanes.

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 and Labrador Refining Corporation

Crude Oil Refinery and Marine Terminal

CEAR Reference Number: 07-03-24726

Southern Head, Placentia Bay, NL