

ATTACHMENT: September 19, 2019
Federal Authority Advice Record form
Response due by October 9, 2019

Cedar LNG Project – Cedar LNG Export Development Ltd.
Agency File: 005734

Department/Agency	Health Canada
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1. Is it probable that your department or agency may be required to exercise a power or perform a duty or function related to the Project to enable it to proceed?

If yes, specify the Act of Parliament and that power, duty or function.

Not applicable

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2. Is your department or agency in possession of specialist or expert information or knowledge that may be relevant to the conduct of an impact assessment of the Project?

Specify as appropriate.

As a federal authority, Health Canada will provide specialist or expert information and knowledge in the Department's possession (expertise) to support the assessment of impacts on human health from projects considered individually and cumulatively under the Impact Assessment Act (IAA). The Department provides expertise in the areas described below; it does not play a regulatory role. How the expertise provided by Health Canada will be used in the impact assessment process will ultimately be determined by the reviewing body(ies). It should also be noted that expertise related to assessing human health that are relevant to impact assessments may be held by other federal, provincial and municipal partners, reflecting the shared jurisdiction for environmental and human health within Canada.

There are many determinants of health, from the economic environment to a person's individual characteristics¹.

¹ See <https://www.canada.ca/en/services/health/determinants-health.html> and also the World Health Organization (<https://www.who.int/hia/evidence/doh/en>).

To support the implementation of the IAA, Health Canada can provide expertise in the following areas:

- Air quality
- Recreational and drinking water quality
- Traditional foods (Country Foods)
- Noise
- Human Health Risk Assessment (HHRA)
- Methodological expertise in conducting Health Impact Assessment (HIA)
- Electromagnetic fields
- Radiological emissions
- Public health emergency management of toxic exposure events

Available Health Canada guidance:

Health Canada has published the following guidance documents for evaluating human health impacts:

Guidance for Evaluating Human Health Impacts in Environmental Assessment:
<https://www.canada.ca/en/services/health/publications/healthy-living.html#a2.5>.

- Human Health Risk Assessment
- Air Quality
- Water Quality
- Country Foods
- Noise
- Radiological Impacts

Guidance prepared by Health Canada on management of crude oil incidents is available as a PDF and in html format through the following link:

- *Guidance for the environmental public health management of crude oil incidents: a guide intended for public health and emergency management practitioners:*
<http://publications.gc.ca/site/eng/9.849592/publication.html>.

Additional information on power lines and electrical appliances can be found at:

<https://www.canada.ca/en/health-canada/services/health-risks-safety/radiation/everyday-things-emit-radiation/power-lines-electrical-appliances.html>

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3. Has your department or agency considered the Project; exercised a power or performed a duty or function under any Act of Parliament in relation to the Project; or taken any course of action that would allow the Project to proceed in whole or in part?

Specify as appropriate.

No

4. Has your department or agency had previous contact or involvement with the proponent or other party in relation to the Project? (for example, enquiry about methodology, guidance, or data; introduction to the project)

Provide an overview of the information or advice exchanged.

No

5. Does your department or agency have additional information or knowledge not specified, above?

Specify as appropriate.

No

6. From the perspective of the mandate and area(s) of expertise of your department or agency, what are the issues that should be addressed in the impact assessment of the Project, should the Agency determine that an impact assessment is required?

For each issue discussed, provide a concise, plain-language summary that is appropriate for inclusion in the Summary of Issues.

Based on the limited information provided in the initial Project Description (iPD), Health Canada (HC) has identified the following key issues and information requirements that are likely to be relevant to the Cedar LNG Project (the Project). These are not to be construed as an exhaustive list of requirements pertaining to human health for the Project:

Human Health Setting & Health Impact Assessment (HIA):

HC would like to see identified the locations of all potential human receptor locations, including residences, cabins and temporary/seasonal traditional use sites such as hunting, fishing, trapping, berry picking, and ceremonial or other uses (e.g. recreational) within the Project area. Sensitive human receptors locations, such as schools, hospitals, retirement complexes or assisted care homes, should also be included. As well, the distances between human receptor locations and the key components of the Project that may have potential impacts on these receptors should be identified.

The iPD indicates that the overall health status in the Kitimat area is lower than the average for British Columbians, which is influenced by lower access to health care services. A detailed Health Impact Assessment (HIA) inclusive of other reasonably foreseeable future projects would be appropriate to capture potential positive and adverse effects on socio-economic factors in addition to the biophysical factors (see following sections) typically included in an environmental and/or impact assessment. An HIA emphasizes that physical, mental, and social well-being is determined by a broad range of factors from all sectors of society (known as the wider determinants of health). The HIA would consider community concerns (e.g., changes in access to, or availability of, traditional foods) determined in consultation with the local population, and incorporate Gender-based Analysis Plus to reflect how project activities can affect subgroups of the population (such as Indigenous and non-Indigenous people, gender diverse people, etc.) in different ways.

Traditional Foods Quality:

The iPD identifies that seafood harvested from local waters is an important food source for residents and the local Haisla Nation, particularly salmon, crab, halibut and eulachon. The iPD indicates that dredging is not anticipated as part of the Project at this early stage. However, given that two marine jetty/terminal design options are being considered (either constructed on marine piles or floating structure anchored to the foreshore), it will be necessary to confirm the need for any future construction or maintenance dredging or other significant sediment disturbance that may be required for the chosen design option. This will help to inform an understanding of potential sediment resuspension during Project construction and operation (if applicable).

If contaminants are present in marine sediments near the Project area and significant sediment disturbance is anticipated during Project construction and/or operation, it will be necessary to identify the contaminants of potential concern (COPCs) and to understand the potential uptake of these COPCs in traditional foods consumed by residents in the area. Additionally, if Project activities are anticipated to emit any contaminants (e.g., mercury) into the air that may deposit onto foods consumed by people, this potential influence on traditional food quality should also be considered.

Air Quality:

The iPD indicates that air quality in the Kitimat area has been influenced by past or existing industrial activities, but that air quality is generally considered to be very good. HC is of the opinion that the most stringent ambient air quality standards² or objectives should be used to undertake an assessment of

² The Canadian Ambient Air Quality Standards (CAAQS) consider nitrogen dioxide, fine particulates and ozone to be "non-threshold" air pollutants; meaning that health effects may occur at any level of exposure to these air pollutants.

existing (baseline) and predicted future (project, project + baseline, cumulative) air quality (e.g., for nitrogen dioxide (NO₂), sulphur dioxide (SO₂), fine particulate matter (PM_{2.5}), and ozone). Ozone presents challenges in impact assessments and requires complex modelling efforts. If secondary pollutants, such as ozone, are not being considered in a quantitative air quality assessment, HC would seek a discussion regarding regional ozone trends and a qualitative assessment that analyzes the likely directional impact based on the precursor emissions from the Project and the local air quality regime of the Project. This is particularly relevant to the Project given the anticipated increase in marine shipping, the presence of the Rio Tinto Alcan aluminium smelter in Kitimat and other anticipated developments in the area. HC notes that Project construction activities, including the use of portable generators and equipment to handle sediment and soils etc., would require the use of diesel fuel over the three-year construction period and may lead to increased levels of PM_{2.5} and fuel combustion by-products (NO₂, SO₂, carbon monoxide, polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs)). As such, the health effects of diesel exhaust or diesel particulate matter (DPM) should be assessed separately, and in addition to other air pollutants.

Water Quality:

The iPD identifies that the Project is not located near a municipal water supply and that freshwater for potable water (among other uses) may be supplied using desalination, groundwater, surface water, or a combination thereof. If local residents and off-duty workers are anticipated to have access to treated drinking water produced on-site, a confirmation of the water source(s), and selected water treatment technology and capacity may be required to confirm adherence to applicable water quality standards or guidelines (e.g., Guidelines for Canadian Drinking Water Quality). In addition, if Project activities have the potential to change the quality of any water sources used by residents in the area (e.g. surface waters, private wells), this should also be described.

In addition to potential drinking water effects, surface and ground water quality may be affected by sedimentation or spills, which may impact human health through dermal contact (e.g., through recreational and ceremonial uses).

Noise:

Construction activities are anticipated to occur up to 24 hours per day, seven days per week, and for up to three years. Noise generating activities may include blasting, pile installation, site clearing, etc. During operation, noise generating activities may include the use of gas turbines and compressors, air coolers and vehicles. Given that the Project is located across the channel (3 km) from Kitimaat Village, a detailed noise assessment will be required in accordance with Health Canada guidance. The noise assessment should identify and describe human receptors that may have a heightened sensitivity to noise exposure (e.g. Indigenous peoples, schools, child care centres, places of worship, etc.). As well, human receptors in rural areas can be considered to have a greater expectation of "peace and quiet". Particular attention will need to be given to the potential for sleep disturbance to local residents, including off-duty workers residing in or near the Project area.

Electric and Magnetic Fields:

To the extent that an electric transmission line (up to 287 kV) may be required to supply power to the Project, it will be necessary to understand any current uses within the identified right-of-way (ROW), including the potential for occasional, seasonal or ceremonial uses by people in the ROW. Should traditional, ceremonial or recreational use sites coincide with the proposed transmission line corridor, a discussion of pre- and post-construction electric and magnetic field levels at these sites may be warranted.

Other Scenarios and Project Components:

The iPD indicates that the Project scenarios to be considered (e.g., for air quality) include Construction, Operation and Decommissioning. The Operations phase should specifically include LNG carriers as potentially influencing air quality – at the Project site and possibly along the marine shipping route. An assessment of potential accidents and malfunctions (at the marine terminal and/or along the marine shipping route) may also be necessary to allow for a full assessment of potential Project impacts. An accidents and malfunctions scenario should also consider human health

impacts resulting from unplanned releases of hazardous air pollutants (e.g., volatile organic compounds, process chemicals, and their by-products) into the atmosphere.

Finally, HC would be supportive of marine shipping being scoped into the Project should it be designated under the *Impact Assessment Act*. HC is also supportive of any proposed ancillary infrastructure which the Project cannot proceed without, such as the electric transmission line and natural gas pipeline as being scoped into the Project assessment, such that there can be a full understanding of potential impacts (both positive and negative) on human health.

Chantal Roberge

Name of Departmental / Agency
Responder
<Original signed by>

Signature **CHANTAL ROBERGE**

Director,
Environmental Health and
Internationally Protected Persons
Programs

Title of Responder

2019-10-09

Date

