Federal Authority Advice Record (FAAR)
Summit Lake PG LNG Project – JX LNG Canada Ltd.
Agency File: 005908

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1. **a) 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.

Based on the Initial Project Description (IPD), ECCC expects that it may be required to exercise a power, or perform a duty or function related to the Project, to enable it to proceed. Once the scope of the Project and of the assessment are established by the Agency, this may change as additional activities or project components could come into scope.

***Species at Risk Act* Permits**

For species listed in Schedule 1 of the *Species at Risk Act* (SARA) as Extirpated, Endangered or Threatened, a permit may be required from ECCC (section 73 of SARA) for activities that affect a listed terrestrial wildlife species, any part of its critical habitat, or the residences of its individuals, where those prohibitions are in place. Such permits may only be issued: if all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted; if all feasible measures will be taken to minimize the impact of the activity on the species or its critical habitat or the residences of its individuals; and if the activity will not jeopardize the survival or recovery of the species. Permits are also required by those persons conducting activities that contravene the critical habitat destruction prohibitions (subsection 58(1)).

Prohibitions are in place for individuals and residences on federal lands in a province, reserve or any other lands under the *Indian Act*, or lands under the authority of the Minister of the Environment, and for birds listed under the *Migratory Birds Convention Act, 1994,* (MBCA) wherever they occur regardless of land tenure.

Furthermore, prohibitions may be in force on land other than federal land pursuant to other orders or regulations under SARA. For migratory birds protected under the MBCA that are listed as Endangered, Threatened or Extirpated on Schedule 1 of the SARA, SARA s.32 (protection of individuals) and s.33 (protection of residences) apply to all land tenure types in Canada. When occupied, i.e., typically during the breeding season, the residences (e.g., nest sites) of all migratory birds listed as Endangered, Threatened or Extirpated on Schedule 1 of SARA are protected on all land tenure types.

For Endangered, Threatened or Extirpated migratory birds that subsequently re-use their residences (e.g., nest sites), the residences are protected under SARA s. 33 year-round.

It is possible that further prohibitions may come into force in the future through orders in Council or other regulatory mechanisms for individuals, residences and critical habitat on non-federal lands and / or through ministerial order for critical habitat on federal lands. It is also possible that, over the course of the assessment or after the assessment, additional species could be listed under SARA; permits may be required for project activities that affect these additional species. Proponents are advised to monitor for such developments on the SARA Registry: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html.

Examples of activities that may require a *Species at Risk Act* permit include:
- Site preparation (clearing, grubbing, site access, staging, blasting);
- Surveys with potential to impact individuals or residences;
- Construction and operation of temporary and permanent works and infrastructure;
- Creation of new roads, rail lines, or power lines; and
- Other activities with potential for injury, mortality, or sensory disturbance impacts (e.g., artificial lighting, flaring, noise, vibration, human activity, vehicle traffic).

ECCC will require detailed information on the potential effects of the project, including locations and/or occurrences of species at risk, their use of habitat and critical habitat within the project area, and specific effects on federal land, before ECCC can determine whether a SARA permit is required.

Links to publicly available documents:
- Guidelines for permitting under Section 73 of Species at Risk Act: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/policies-guidelines/permitting-under-section-73.html
- Species at Risk Permitting Policy: https://species-registry.canada.ca/index-en.html#/consultations/2983
- A guide to your responsibilities under the Species at Risk Act: https://www.canada.ca/en/environment-climate-change/services/species-risk-education-centre/your-responsibility/your-responsibility-guide.html

In the event that a SARA permit is required, ECCC would evaluate and determine consultation requirements, if any.

If a permit is issued, the description of the activity and how SARA's preconditions were met will be posted on the SARA Registry here: https://species-registry.canada.ca/index-en.html#/permits.

***Migratory Birds Convention Act* Permits**

The MBCA and the *Migratory Birds Regulations*, 2022 (MBR, 2022) protect migratory birds and their eggs and prohibit the disturbance, damage, destruction, or removal of migratory bird nests when they contain a viable egg or a live bird (young or adult). This legislation and regulations apply to all lands and waters in Canada, regardless of ownership.

Schedule 1 of the MBR 2022 provides year-round nest protection for 18 species, and nests of these species cannot be damaged, destroyed, removed or disturbed, even when they are unoccupied, unless the following conditions of the regulations have been met:
- a notification of the unoccupied nest has been submitted/received through the Registry for Abandoned Nests; and
- the wait time designated in the regulations has passed, and during this time the nest was not occupied by a migratory bird.

Planning can help to avoid risks of detrimental effects to migratory birds, as the principal risk factors are the location and time of year of activities. For more information on ways to reduce the risk of detrimental effects to migratory birds, their nest and eggs, please visit: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html.

For more information on permits and the MBR 2022, please visit: https://www.canada.ca/en/environment-climate-change/services/migratory-game-bird-hunting/status-update-modernization-regulations.html.

For more information and guidance on general nesting periods, please visit: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/overview.html.

b) Please describe any Indigenous or public consultation that will be undertaken in relation to the exercise of that power, duty or function, including when it would take place.

ECCC does not expect to exercise any powers or perform a duty or function under any Act of Parliament in relation to the Project that will involve public or Indigenous consultation.

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

Specify the specialist or expert information or knowledge.

ECCC has specialist or expert information that may be relevant to the impact assessment in the areas listed below. In each of these subject areas we have expertise related to establishing an adequate baseline, assessing potential effects to biophysical valued components, effectiveness of mitigation measures, methods for monitoring and follow-up, as well as information regarding federal policies, standards, and regulations that may be relevant to the assessment (Note: ECCC does not assess proposed projects for regulatory compliance, but instead provides technical input to the Impact Assessment Agency of Canada (Agency) to inform the assessment). Once the scope of the project and of the assessment are established by the Agency, this list may change if additional project activities or components should come into scope.

Air quality: ambient air quality; sources of emissions; emissions estimation and measurement; atmospheric transport, transformation and dispersion modelling; cumulative effects and follow-up monitoring.

Greenhouse gas emissions and climate change: estimations of greenhouse gas (GHG) emissions (net and upstream); carbon sinks; GHG mitigation measures and determination of Best Available Technologies/Best Environmental practices (BAT/BEP); credible plans to achieve net-zero GHG emissions by 2050; climate change science to inform evaluation of potential changes to the environment and project resilience to effects of climate change; climate change policies; and national GHG projections.

Water quality and quantity: surface water quality; contamination sources for surface water and groundwater, including effluent; wastewater; water quality predictions and modelling; seepage and runoff effects; management of contaminated soils or sediments; hydrology (streamflow rates data and modelling, flooding and extreme events management, drainage control, water levels, water balances); geochemistry; cumulative effects and follow-up and monitoring.

Wildlife, species at risk, and habitat: priority species and places as outlined in the Pan-Canadian Approach to transforming species at risk conservation in Canada ; migratory birds, their nests, eggs, and habitat under authority of the Migratory Birds Convention Act 1994; species assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC); species at risk, individuals, their residences, habitat and critical habitat including recovery strategies, action plans and management plans under ECCC's mandate; ecological function of wetlands; and ecotoxicology.

Environmental emergencies: emergency management planning and guidance, including where the release of hazardous substances could affect species at risk and/or migratory birds; atmospheric transport and dispersion modelling of contaminants in air; fate and behaviour; and hydrologic trajectory modelling of contaminants in water.

Climate and meteorology: long-term climate patterns and norms; marine winds, waves, and weather; and sea ice and icebergs.

3. **Has your department or agency 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?**

Please specify if applicable.

ECCC has not considered, exercised a power or performed a duty, or taken any course of action as part of the Project.

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

   Please provide an overview of the information or advice exchanged.

   Based on information readily available, ECCC has not had any involvement with the Proponent or other parties that would be relevant to the assessment of this project.

5. **Does your department or agency have additional information or knowledge about the project not specified above, including information about its geographic, environmental, economic or social context (for example, location of protected or sensitive areas, history between local communities and Proponent or similar projects, local or regional social or economic concerns)?**

   Please specify if applicable.

   Part 8 of the *Canadian Environmental Protection Act* (CEPA) 1999 on environmental emergencies (sections 193 to 205) addresses the prevention of, preparedness for, response to and recovery from environmental emergencies caused by uncontrolled, unplanned or accidental releases. It also addressed the reduction of any foreseeable likelihood of releases of toxic or other hazardous substances listed in Schedule 1 of the Environmental Emergency Regulations. This Act or regulations may apply if Schedule 1 substances present on site meet or exceed the regulated thresholds.

   Open Science Data Platform (OSDP)
   The Open Science Data Platform (OSDP[1]) provides information relevant to cumulative effects and development activities across Canada. More specifically, the platform provides a single window to access data and scientific knowledge relevant to understanding cumulative effects from existing federal, provincial, and territorial on-line databases and registries, including publications from the federal government and its scientists. It provides and interactive geospatial mapping tool to enable mapping of multiple datasets from multiple sources. It offers various features, including keyword-based searching, interactive data visualization on maps, and educational resources covering key topics such as cumulative effects, water, air, climate, biodiversity, land, economy and industry, health, and society and culture.

   OSDP information may be of value to persons preparing and reviewing projects assessments, including cumulative effects assessments. The following are some examples of ECCC information available on the OSDP.

   Water – quality and quantity
   - National long-term water quality monitoring data
   - Real-time hydrometric data
   - Canadian Aquatic Biomonitoring Network (CABIN)
   - National Pollutant Release Inventory (NPRI)
   - Facilities that reported releases to water
   - Find additional water-related resources (including publications, datasets and monitoring stations) from ECCC on the OSDP here.

   Biodiversity (e.g., birds, species at risk, wetlands)
   - Critical habitat for species at risk (terrestrial)
   - Range map extents – Species at risk
   - Canadian wetlands
   - Canadian Protected and Conserved Areas Database (CPCAD)

[1] The Open Science Data Platform is available online at: https://osdp-psdo.canada.ca/dp/en

- Canadian Breeding Bird Census plots
- Priority places for species at risk
- Find additional biodiversity-related resources (including publications, datasets and monitoring stations) from ECCC on the OSDP here.

Air Quality

- National Pollutant Release Inventory (NPRI), including:
- Facilities that reported release of criteria air contaminants
- Canadian Environmental Sustainability Indicators (CESI), including
- Average ambient fine particulate matter concentrations
- Peak ambient ozone concentrations
- Ambient volatile organic compound concentrations
- Average ambient sulphur dioxide concentrations
- Peak ambient nitrogen dioxide concentrations
- Find additional air-related resources (including publications, datasets and monitoring stations) from ECCC on the OSDP here.

Climate, including climate change

- Hourly and daily climate observations
- Monthly climate observation summaries
- Climate normals, averages and extremes 1981-2020
- Homogenized surface air temperature
- Adjusted precipitation
- Find additional climate-related resources (including publications, datasets and monitoring stations) from ECCC on the OSDP here.

Beyond ECCC's mandate, the OSDP also contains resources on topics led by departments and other levels of government (e.g., human health, economy and industry). The OSDP also provides access to regulatory registries that list government authorizations of other developments (e.g., *Fisheries Act* Registry), which can be useful in understanding the cumulative pressures on an area.

6. **From the standpoint of your department's mandate and expertise, what are the main issues concerning the project?**

For each key issue, please:

- **describe the effect or the nature of the issue, including any relevant context;**
- **provide the rationale and/or evidence for why it is a key issue;**
- **briefly provide solutions to the issue, including information or studies that, if applicable, should be requested to the Proponent in the Tailored Impact Statement Guidelines, potential mitigation measures, or regulatory requirements relevant to the issues;**
- **provide a concise, plain-language summary of the issue for inclusion in the Summary of Issues.**

The information provided will be taken into consideration by the Agency to formulate an opinion on whether an impact assessment is required and, if applicable, will be taken into account in developing project-specific Tailored Impact Statement Guidelines in the next steps of the impact assessment process.

Please use Table 1 to answer this question.

7. **If applicable, specify any additional information the Proponent could provide in the Detailed Project Description or in its response to the Summary of Issues that:**
    - **would make it possible to verify whether certain minor issues could be addressed and managed by clear measures, existing guidelines, other regulatory processes or other existing tools;**
    - **help the Agency to provide an opinion if an impact assessment is required, or**
    - **would support the tailoring of the Impact Statement Guidelines if the Agency is of the opinion that an impact assessment is required.**

These clarifications and additional information will be included as specific questions/issues in the Summary of Issues provided to the Proponent.

Please use Table 2 to answer this question.

Name of department or agency involved	Al Hodaly, Environment and Climate Change Canada
Speaker title	Regional Environmental Assessment Manager Pacific and Yukon Region
Date	April 10, 2024

Table 1: Key issues to inform the impact assessment process

The Agency asks that federal authorities guide expert advice on the Agency's approach to project specific tailoring, if the Agency is in the opinion that an impact assessment is required. This approach aims to focus the assessment on the Project's key issues, with an emphasis on the prevention of adverse environmental effects in areas of federal jurisdiction. In determining key issues, federal authorities should be mindful of the Project's context (size, scope, location), Indigenous knowledge and perspectives, and public concerns.

Potential effects that are considered minor, or that can be mitigated through clear measures, existing guidance or other regulatory processes, may be subject to simplified information requests or be disregarded. Advice from federal authorities on key issues and solutions - and on the scope and detail of the studies and information requested - will enable the Agency to focus the analysis on those issues that are important for the impact assessment process.

Comment ID	Relevant section of the initial project description	Valued Component or Factor to Consider	Description of key issue (context and rationale)	Advice	Plain-language summary for inclusion in Summary of Issues
Please present comments by organization and comment number *e.g.: IAAC-01*	*If the comment relates to a specific section of the initial project description, please provide the reference.*	*Identify valued component(s) or factor to consider—within the mandate of your department or agency—to which the potential effect or issue applies.*	*Please provide a brief description of the issue and rationale for being a key issue.* *Include, where relevant:* • *the sequence of potential effects;* • *the relevant context that specifies why this is a key issue;* • *key uncertainties that should be addressed in the impact assessment;* • *Indigenous or public concerns or perspective;* • *scientific data or traditional knowledge, including from previous projects, that justifies the inclusion of the key issue in the project assessment.*	*If applicable, please provide brief solutions/advice to address the issue or potential effect, including:* • *studies or information relevant to describing and characterizing the potential effect, including any guidance for data collection or analysis or existing data sources to inform the assessment;* • *any powers your department or agency has that may mitigate, manage or set conditions related to the issue;* • *advice or policies to frame and mitigate the potential effect;* • *standardized mitigation or monitoring measures that could manage potential effects, including follow-up on monitoring activities;* • *Commitments the Proponent could make to respond to the issue.*	*For issues to be included in the Summary of Issues, provide a concise, plain language synopsis of the key issue and any questions or directions for the Proponent, if applicable.*
ECCC-01	Figure 4, Proposed Investigative Use Permit Map, pdf page 88	Wetlands — all project components	The potential direct and indirect effects of the project on wetlands and wetland functions are to be determined through the Proponent's baseline studies and assessment. Activities associated with the construction and operation of the proposed project may result in the loss or alteration of wetlands important to migratory birds, species at risk and other wildlife, and their functions (e.g., direct loss of wetland area due to construction of Project components, indirect impacts to functions such as changes in hydrogeology or introduction of invasive species). Carrying out the Project, particularly the activities related to construction, may result in a loss of wetlands and wetland functions, which provide habitat for migratory birds, species at risk, and other wildlife that require these areas for breeding, foraging, overwintering, resting, and migration.	Classify all wetlands within the Project study area according to the Canadian Wetland Classification System. Conduct a wetland function assessment, including, but not limited to, consideration of the following guidelines: • Hanson, et al. 2008. Wetland ecological functions assessment: an overview of approaches. Available at: https://publications.gc.ca/site/eng/343283/publication.html • Fletcher, N.F., Tripp, D.B., Hansen, P.L., Nordin, L.J., Porter, M., and Morgan, D. 2021. Protocol for the Wetland Health Management Routine Effectiveness Evaluation. Forest and Range Evaluation Program, B.C. Ministry of Forests, Lands, Natural Resources Operations and Rural Development, Victoria, B.C. Available at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/frep/protocol-documents/frep_protocol_-_wetland_health_-revised_jan2021.pdf • B.C. Wildlife Federation and B.C. Ministry of Forests, Range, Natural Resource Operations and Rural Development. 2021. Technical Guidance Document for Evaluating the Health of Wetlands (Wetland Management Routine Effectiveness Evaluation). Forest and Range Evaluation Program, B.C. Ministry of Forests, Lands, Natural Resources Operations and Rural Development, Victoria, B.C. Available at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/frep/frep-docs/frep_wetlands_protocol_tech_supp_mar2021.pdf	Activities associated with the construction and operation of the proposed project may result in the loss or alteration of wetlands important to migratory birds, species at risk and other wildlife, and their functions. ECCC recommends conducting studies to identify and assess the Project's impacts on wetlands (e.g., bogs, fens, marshes, swamps, and shallow water class wetlands) and wetland functions, including: Assessing the Project's direct and indirect impacts on wetland functions within the Project study areas.

				Assess all potential effects, including direct and indirect effects, of project components and activities, on wetlands, including loss of area and/or wetland functions (including those related to migratory birds and species at risk). If no direct and/or indirect impacts to wetlands are identified, provide evidence to support that conclusion. Provide information regarding how the mitigation hierarchy (i.e., avoid, reduce, offset) was applied. For any impacts that cannot be avoided, provide mitigation measures to reduce the Project's impact. Design mitigation measures based on the best available standards, guidelines, best management practices, and scientific literature. Finally, provide information on the potential for residual effects after mitigation measures are implemented and include this information in a cumulative effects assessment, where applicable. For any unavoidable loss of wetlands and/or wetland functions, include offsetting, restoration, and enhancement measures in alignment with: • Environment Canada. 2012. Operational Framework for Use of Conservation Allowances. Available at: https://publications.gc.ca/collections/collection_2012/ec/En14-77-2012-eng.pdf	Designing mitigation measures and offsetting to reduce Project impacts that cannot be avoided. Considering the Project's residual effects and conduct a cumulative effects assessment.
ECCC-02	Section 10.1.4	Air Quality - Liquefaction, storage or regasification of liquefied natural gas	The construction, operation, and decommissioning of LNG facilities can result in adverse effects on air quality. Activities such as the construction and operation of facilities, and activities associated with combustion (including transportation and compression stations) can result in the emission of air contaminants such as sulfur oxides (SO_x), nitrogen oxides (NO_x), volatile organic compounds (VOCs), and particulate matter ($PM_{2.5}$, PM_{10} and PM). The bulk of emissions typically occurs during operations from sources such as stationary combustion, intentional and non-intentional releases from equipment, electricity generation, flaring and venting. In addition to these emissions during normal operations, non-routine situations can result in additional emissions, such as emergency venting from pressurized lines and vessels, or emissions from leaks or spills. Activities which cause a physical disturbance to land and ore, such as earth moving, land clearing, blasting, crushing, and transportation, can introduce particulate matter (e.g. dust and soot) to the surrounding region. Air contaminants could include particulate matter (PM, PM_{10} and $PM_{2.5}$), diesel particulate matter (DPM) sulfur oxides (SO_x), nitrogen oxides (NO_x), volatile organic compounds (VOCs), hydrogen sulphide (H_2S), polycyclic aromatic hydrocarbons (PAHs), carbon monoxide (CO), and other air contaminants. These emissions can result in local or regional degradation of ambient air quality, with potential impacts on sensitive ecosystem receptors. Furthermore, emissions of air contaminants as a result of this project may add cumulatively to the emissions from other activities, contributing to degradation of air quality in the region.	The construction, operation, and decommissioning of the Project can result in adverse effects on air quality, which may have transboundary impacts or impacts on Indigenous peoples. Describe all potential effects, including direct and indirect effects, of project components or activities, including changes to air quality.	The construction, operation, and decommissioning of LNG facilities can result in adverse effects on air quality. ECCC recommends describing all potential effects, including direct and indirect effects, of project components or activities, including changes to air quality.
ECCC-03	Section 10.1.4	Air Quality - Road and rail transportation emissions	Projects which involve an increase in capacity for rail and projects which will result in an increase in demand for rail traffic as a direct result of the project have the potential to adversely affect air quality.	The construction, operation, and decommissioning of the Project-related rail activity can result in adverse effects on air quality, which may have transboundary impacts or impacts on Indigenous peoples..	The construction, operation, and decommissioning of the Project-related rail activity can result in adverse effects on air quality.

			More specifically, the combustion of fossil fuels to power the rail engines can result in the emission of air contaminants such as SOx, NOx, VOCs, and fine particulate matter (PM2.5). When some contaminants settle out of the air in the surrounding environment, their deposition may result in acidification and potential exceedance of ecosystems' critical loads. The emission of these air contaminants can result in local or regional degradation of ambient air quality, with potential impacts on sensitive ecosystem receptors.	Describe all potential effects, including direct and indirect effects, of project-related rail impact on air quality.	ECCC recommends describing all potential effects, including direct and indirect effects, of project-related rail impact on air quality.
ECCC-04	Section 13	Air Quality - Greenhouse gas emissions and climate change	The construction, operation, and decommissioning of the proposed project may result in greenhouse gas (GHG) emissions, or impact to carbon sinks, and may hinder or contribute to the Government of Canada's ability to meet its commitments in respect of climate change. Furthermore, the project has the potential to be affected by future climate change, possibly resulting in impacts to the environment. Climate change may alter the likelihood or magnitude of sudden weather events such as extreme precipitation that can contribute to flooding, as well as contribute to longer-term changes such as sea level rise, permafrost thaw and changes to migration patterns. Changes related to warming are already evident in many parts of Canada and are projected to continue in the future with further warming. If not properly considered, such changes may cause issues such as equipment failures that can threaten the environment, human health and safety, interrupt essential services, disrupt economic activity, and incur high costs for recovery and replacement.	The Strategic Assessment of Climate Change (SACC) (published in October 2020) provides guidance related to climate change throughout the impact assessment process. The SACC outlines information that the Proponent should provide during the impact assessment process on GHG emissions, impact of the project on carbon sinks, impact of the project on federal emissions reduction efforts and on global GHG emissions, GHG mitigation measures and climate change resilience; the circumstances in which an upstream GHG assessment would be required; and the circumstances in which a credible plan to achieve net-zero emissions by 2050 will be required. More details are provided in the draft Technical Guide Related to the Strategic Assessment of Climate Change: Guidance on quantification of net GHG emissions, impact on carbon sinks, mitigation measures, net-zero plan and upstream GHG assessment published in August 2021: • https://www.canada.ca/content/dam/eccc/documents/pdf/consultations/strategic-assessment-climate-change/strategic-assessment-climate-change-draft-technical-guide.pdf	The project's GHG emissions, upstream GHG emissions and climate change impacts should be assessed following the Strategic Assessment of Climate Change (SACC), to ensure that GHG emissions are mitigated, and the Project Proponent has a plan to achieve net-zero emissions by 2050, as it is expected that the project's lifetime will go beyond 2050.
ECCC-05	Table 6-1 Project Components	Water Quality and Quantity – Linear Projects	Constructing watercourse crossings, conducting hydrostatic tests, constructing and maintaining access roads, excavating or reworking of soils, sediments or rocks, and drilling and blasting may result in the deposit of contaminants to watercourses and water bodies and result in adverse effects on water quality. Disturbing soils, rock, and streambanks during construction activities may cause erosion and result in deposition of soils and sediments to waterbodies. Soils and sediments can also enter waterbodies through streambed disturbance. These suspended solids can have adverse effects on water quality. Disturbing soil and rock may also result in processes such as acid rock drainage, or metal leaching, which has adverse effects on water quality due to acidification and the introduction of metal contaminants into a waterbody. Contaminants may be introduced into waterbodies through wastewater discharge, groundwater resurgence, or spills resulting in adverse effects on water quality. The deposition of airborne particulate matter generated by the project could also be a source of surface water contamination. Water impoundment or withdrawals (for example, for hydrostatic tests) and disturbances to the natural flow of surface water (for example,	The activities linked to the construction, operation, and decommissioning of the Project can have adverse effects on the quality of groundwater and surface water, as well as on the hydrological regimes of watercourses and water bodies. Describe all potential effects, including direct and indirect effects, of project components or activities, including changes to water quality.	The activities linked to the construction, operation, and decommissioning of linear projects can have adverse effects on the quality of groundwater and surface water, as well as on the hydrological regimes of watercourses and water bodies. Adverse effects to water quality could, in turn, result in adverse effects to sensitive ecosystem receptors.

			watercourse crossings) could have effects on the quantity, availability and hydrological regimes of watercourses and waterbodies. Adverse effects to water quality could, in turn, result in adverse effects to sensitive ecosystem receptors.		
ECCC-06	Table 6-1 Project Components	Water Quality - Liquefaction, storage or regasification of liquefied natural gas	The operation of LNG facilities can result in adverse effects on water quality. Activities associated with combustion (including transportation and compression stations) can result in the emission of air contaminants such as sulfur oxides (SO_x) and nitrogen oxides (NO_x). These air contaminants are subsequently deposited, leading to the acidification and eutrophication of waterbodies. This can result in the degradation of water quality and potential impacts on sensitive ecosystem receptors. Furthermore, acidification and eutrophication as a result of this project may add cumulatively to water quality impacts from other activities. Activities associated with the construction, operations, and decommissioning of LNG facilities may result in the discharge of contaminants to waterbodies through effluent (e.g., wastewater, cooling effluent, process effluent), spills, or leaching. This may result in adverse effects to surface water and groundwater quality.	The construction, operation, and decommissioning of the Project can have adverse effects on the quality of groundwater and surface water. Describe all potential effects, including direct and indirect effects, of project components or activities, including changes to water quality.	The construction, operation, and decommissioning of the Project can have adverse effects on the quality of groundwater and surface water. ECCC recommends describing all potential effects, including direct and indirect effects, of project components or activities, including changes to water quality.
ECCC-07	Table 6-1 Project Components	Migratory birds, species at risk, and their habitats – all Project components	The potential direct and indirect effects of the project on migratory birds, species at risk, and their habitats are to be determined through the Proponent's baseline studies and assessment. Activities associated with the construction, operation, and decommissioning of the Project and associated infrastructure are predicted to impact wildlife and wildlife habitats, including critical habitat, of migratory birds and species at risk (e.g., amphibians, arthropods, birds, mammals, and plants) listed on under the *Species at Risk Act* (SARA). ***Migratory birds, species at risk, and their habitat*** Individual mortality and the destruction of nests and eggs or any other structure necessary for the reproduction and survival of species at risk could occur during all project phases, particularly during site preparation. Mortality and/or injury of migratory birds and species at risk could also occur because of collisions with vehicles or infrastructure (e.g., powerlines, anthropogenic structures, interactions with lighting) related to the project. Accidental oil or chemical spills could also have adverse effects if these substances make their way into the habitats frequented by migratory birds and species at risk. There is a higher risk that these effects would be more severe for migratory birds that are also species at risk and species where habitat is sensitive to disturbance (e.g., wetlands) or where there is already a high degree of cumulative effects to habitat or individuals. The Project may result in the loss, fragmentation, and/or alteration of habitat, and can negatively impact patterns and behaviours of wildlife, such as reproduction, foraging, staging and migration, and	Conduct desktop surveys of all available data for the region for species at risk, migratory birds, and their habitats (including known habitat features, residences, dens, nests, etc.). Sources should include citizen science, provincial, and federal datasets. Inquiries to local conservation groups, governments, etc. may be necessary to obtain data on sensitive species and habitats. Conduct project-specific baseline surveys and habitat suitability mapping to address any data gaps identified during desktop surveys and to support the assessment of the Project's impacts on species at risk, migratory birds, and their habitats. Design Project surveys to: • identify seasonal and annual variation, distribution, and habitat use (requires adequate scope, survey effort, and consideration of locations, etc.); and • be in alignment with the best available standards and scientific literature, including, but not limited to those developed by BC's Resource Inventory Standards Committee (RISC) and ECCC. Consult the available Recovery Strategies for each species at risk with potential to be impacted by the Project for information on recovery objectives, identified threats, and identification of critical habitat and incorporate this information into the assessment. Assess all potential effects, including direct and indirect effects, of project components and activities, on migratory birds, species at risk, and their habitats, including critical habitat and habitat meeting the biophysical attributes of critical habitat (i.e., all suitable habitat for species at risk). Provide information on how the mitigation hierarchy was applied. For any impacts that cannot be avoided, provide mitigation measures to reduce the Project's impacts on wildlife. Design mitigation measures, including monitoring parameters and timelines, based on the best available standards, guidelines, best management practices, and scientific literature. Design mitigation measures for species at risk to be consistent with recovery documents. Finally, provide information on the potential for residual effects after mitigation measures are implemented and include this information in a cumulative effects assessment,	ECCC recommends conducting studies to identify and assess the Project's impacts on migratory birds, species at risk, and their habitats, including: Assessing the Project's direct and indirect impacts within the Project study areas. Designing mitigation measures to reduce Project impacts that cannot be avoided. Offsetting for the unavoidable loss of habitats that support migratory birds and species at risk. Considering the Project's residual effects and conduct a cumulative effects assessment.

			overwintering. The construction of the Project may also increase public access to the region for activities such as hunting or recreation. New road infrastructure or an increase in capacity to existing road networks is predicted to increase vehicle traffic volumes, which is likely to result in an increase in wildlife injury, mortality, and the introduction of invasive species. Migratory birds and species at risk are predicted to be affected by sensory disturbances during the construction, operation, and decommissioning of the project (e.g., noise, lights, vibrations, increased human presence). Sensory disturbance may make adjacent habitats unsuitable for use by wildlife and cause avoidance effects in many species.	where applicable. For any unavoidable loss of habitat with potential to support species at risk, include offsetting, restoration, and enhancement measures in alignment with: Environment Canada. 2012. Operational Framework for Use of Conservation Allowances. Available at: https://publications.gc.ca/collections/collection_2012/ec/En14-77-2012-eng.pdf Please refer to Question 1a) of the FAAR for additional information on the Proponent's responsibilities under the SARA and the potential requirements for permits.	
ECCC-08	Table 6-1 Project Components	Environmental emergencies	The proposed LNG project includes natural gas receiving and treatment units, natural gas pipeline, liquefaction facilities, bulk fuel storage of petroleum products, LNG storage tanks, rail yard, flare system, LNG container loading and unloading facilities, the use of hazardous materials near water and potential for release of explosive gases to the atmosphere. As such, there is potential for adverse environmental and human-health effects from accidents and malfunctions. Adverse effects to air quality, water quality, wildlife and wildlife habitat could result from the accidental release of toxic or flammable substances from pressurized containers and from the release of contaminants to surrounding waters, air, and terrestrial environment.	Optimized prevention, preparedness, and response measures and systems are crucial, especially considering the risks of spills of hazardous substances to water bodies, the terrestrial environment, and uncontrolled releases of explosive gases. The detailed project description should provide adequate analyses of accidents and malfunctions to understand their potential geographical extent, risks, potential consequences, and proposed mitigation measures aimed at minimizing their impact. It is expected that reliable modelling for any contaminants released into the air, spilled on land, and discharged in water will underpin the analysis of each type of incident. Part 8 of Canadian Environmental Protection Act (CEPA 1999) may apply if Schedule 1 substances on site meet or exceed the regulated threshold.	Considering the risks of spills of hazardous substances to air, water bodies, and the terrestrial environment and optimized prevention, preparedness, and response measures and systems are crucial, – therefore proactive spill prevention mitigations should be incorporated into all aspects of the Project (i.e., design, construction, operations and decommissioning)
ECCC-09	Executive Summary	Climate Resilience	As climate over the lifetime of the project is projected to be different from past and current climate in the area, and the operational lifetime of the proposed Project is approximately 30 years (not including decommissioning), climate change considerations are relevant to the Project review. There is potential for climate change to affect the Project which, in turn, may have impacts on the surrounding environment (e.g. through accidents or malfunctions). Climate changes in the Project area, such as possible changes in mean and extreme precipitation and temperature and related environmental conditions, may alter baseline conditions, with implications for climate sensitive aspects of Project design and associated effects on the environment. For example, project components and activities for which climate change resilience could be important for this project include those related to water management infrastructure. If the Proponent is required to conduct an Impact Statement, there would be further requirements through the Tailored Impact Statement Guidelines (TISG) on how the Project is resilient to and at risk from both the current and future impacts of a changing climate.	The SACC provides guidance related to climate change throughout the impact assessment process. Should the Project be designated under the IAA, the SACC would apply. The SACC outlines information that the Proponent should provide during the impact assessment process related to climate change resilience. More details are provided in the "*Draft technical guide related to the Strategic Assessment of Climate Change: Assessing climate change resilience*" published in March 2022. Links: "*Strategic Assessment of Climate Change*" https://www.strategicassessmentclimatechange.ca "*Draft technical guide related to the Strategic Assessment of Climate Change: Assessing climate change resilience.*" https://www.strategicassessmentclimatechange.ca/28896/widgets/117114/documents/77106	The project's resilience to future climate change should be described and, where relevant, considered in project design.

Table 2. Details or additional information the Proponent could include in the Detailed Project Description or in the response to Summary of Issues

Comment ID	Relevant section of the Initial Project Description	Description of the Issue, Concern or Uncertainty	Clarifications or additional information	Plain-language summary for inclusion in Summary of Issues
Please identify comments by organization and comment number. *e.g. AEIC-01*	*If the comment is related to a specific section of the Initial Project Description, please provide a reference.* *You may also choose to copy the relevant text here.*	*Provide a description of the issue, concern or uncertainty that the Proponent could include in its Detailed Project Description, which could be framed and managed by clear measures, existing guidelines, regulatory processes or other existing tools, and thus be the subject of a simplified information request in the guidelines, or simply be disregarded.*	*Specify what additional information the Proponent could provide in the Detailed Project Description to address the issue, concern or uncertainty, for example:* • *Clarifications to elements of Project Description (e.g. components, activities, locations or alternatives);* • *Proposals on Project design changes that could avoid effects;* • *Evidence that could demonstrate that the effects will be negligible;* • *Evidence that standard mitigation measures will reduce or eliminate potential effects;* • *Commitments the Proponent could make to respond to the question/issue, including the implementation of federal operational policies or guidance documents.*	*For issues to be included in the Summary of Issues, provide a concise, plain-language synopsis of the issue and any questions or instructions for the Proponent, if applicable.*
ECCC-01	Executive Summary, Section 3.6, Section 13	The Proponent states that they are evaluating options for carbon sequestration and storage as well as carbon offsets, however, ECCC requires additional information to be able to provide comment.	It is recommended that the Proponent includes more information on how carbon capture or other GHG mitigation measures are being considered in the assessment and their implications on the Project's GHGs and the net-zero plan. Additional guidance is available in Sections 2.4 and 3.3 of the Draft Technical Guide Related to the Strategic Assessment of Climate Change (SACC): Guidance on quantification of net GHG emissions, impact on carbon sinks, mitigation measures, net-zero plan and upstream GHG assessment[2]	ECCC recommends the Proponent provide further information in the DPD on whether and how carbon capture or other mitigation measures are being considered to reduce the Project's GHG emissions, including discussions on technical and economic feasibility.
ECCC-02	Executive Summary, Section 3.6	The Proponent states that they are designing the Project to be net-zero in terms of greenhouse gas emissions, however, emission estimates presented in Annex C do not indicate that net-zero emissions will be achieved.	The Proponent is encouraged to provide more information on potential mitigation measures and alternatives in order to work towards a credible plan to achieve net-zero, as outlined in the section 5.3 of the SACC[3].	ECCC recommends that the Proponent provide an overview of all measures being considered to ensure the Project has net-zero emissions by 2050, and to provide more details on a net-zero plan.
ECCC-03	Appendix C, Table 0-1	Table 0-1 compares the project GHG emissions to total BC emissions. This comparison is not meaningful.	The Proponent should refrain from comparing the Project's GHG emissions to provincial totals as this is not a meaningful comparison and GHG emissions are cumulative in nature.	ECCC notes that comparing the Project's GHG emissions to historical sector, national, and provincial totals may not provide as meaningful context or insight, as all project GHG emissions are cumulative in nature and will appear minor in comparison to national and provincial totals. ECCC recommends a comparison could be made between the Project's GHG emissions and forward-looking emission level trajectories based on national and provincial GHG emission reduction targets.
ECCC-04	Appendix C, Table 0-1	The operational phases of the project and their respective GHG emissions are unclear.	ECCC requires clarity on the breakdown of operational years. More specifically, ECCC requires clarity on the timing of phase 1 and 2 and whether they will occur at the same time past a certain year, i.e. whether these emissions are cumulative. The Proponent	ECCC recommends that the Proponent provide clarity in the breakdown of project phases as they relate to their GHG emissions, ECCC also recommends that the Proponent provide annual emissions totals.

[2] Available online at: https://www.canada.ca/en/environment-climate-change/corporate/transparency/consultations/draft-technical-guide-strategic-assessment-climate-change.html
[3] Available online at : https://www.canada.ca/en/services/environment/conservation/assessments/strategic-assessments/climate-change.html

			should also present total emissions annually to display how total emissions are expected to change throughout the lifetime of the project.	
ECCC-05	Appendix C, Table 0-1	The Proponent has provided emission estimates for the land use change, however, the Proponent has not provided information on the Project's impacts on carbon sinks. The Information and Management of Time Limits Regulations require project Proponents to provide a description of the physical and biological environment of the project's location.	As outlined in the SACC, the Proponent should provide the following information to help ECCC understand the potential impacts on carbon sinks: - a description of the activities that would result in an impact on carbon sinks; and - land areas expected to be impacted by the Project, by ecosystem type (forests, cropland, grassland, wetlands, built-up land) over the course of the Project lifetime, including any areas of restored or reclaimed ecosystems.	ECCC recommends the Proponent provides a carbon sink assessment according to guidance in Section 4.1.2 of the SACC.
ECCC-06	Appendix C, Table 0-1, Table 0-2	Table 0-1 contains conflicting information. More specifically, Note 9 under Table 0-1 contradicts the information on construction emissions presented within the table.	The total emissions presented in Table 0-1 does not reflect actual annual emissions. For example, Phase 1 construction would take place before operations begin and therefore would not contribute to the total annual emissions past year 3. Resolution of the above comment [ECCC-04] would help to remedy this. Table 0-2 information should be included in Table 0-1. See the SACC and the Technical Guide for information on how GHG emission information should be calculated and presented. The Table 0-2 value for acquired emissions (4,649 t/yr) is different than that presented in Table 0-1 (4,656 t/yr). In addition, acquired emissions should be presented in Phase 1 AND Phase 2 (in Table 0-1). Acquired emissions is currently only presented in Phase 1.	ECCC recommends that the Proponent clarify Table 0-1, including: - Ensuring Note 9 under Table 0-1 does not contradict the construction emissions information; - Including the total emissions estimate; - Including Table 0-2 information in Table 0-1; - rectifying discrepancies between Table 0-2 and Table 0-1 emission values; and - Ensuring that acquired emissions are present for both Phase 1 and 2.
ECCC-07	Appendix C, Table 0-1	Decommissioning emissions are discussed in Table 0-1, however, no GHG emission estimate is provided for the decommissioning phase.	ECCC recommends that the Detailed Project Description (DPD) includes the breakdown of emissions by the sources for the decommissioning phase.	ECCC recommends including additional information related to assumptions and/or estimating the decommissioning emissions in the DPD.
ECCC-08	Section 14 - Public and Environmental Safety	There is a potential for adverse environmental and human-health effects resulting from accidents and malfunctions that are possible from the Project. Optimized prevention and preparedness/response measures and systems are necessary components of any Project proposal that poses a risk of spills of hazardous substances and uncontrolled releases of explosive gases to the atmosphere. The affected communities and Project personnel should be adequately prepared to respond to emergencies and take appropriate measures in a timely manner to significantly reduce the environmental impact associated with an accidental release.	The Proponent is encouraged to engage with the potentially affected communities by bringing awareness to the emergency response measures that will be initiated following an incident and to clarify roles and responsibilities of any stakeholders that may be impacted by a potential environmental emergency. In the DPD, ECCC recommends that the Proponent include: - A description of Community Awareness plans for surrounding communities that would likely be impacted by the consequences of a significant emergency incident. - A description of Emergency Communications Plans that would provide emergency instructions to surrounding communities. Procedures should include a combination of urgent immediate actions, such as public notification of safety issues, shelter-in-place and evacuation directions, as well as longer term actions such as general website and hotlines, incident status updates, etc. - A description of existing emergency preparedness and response systems and existing arrangements and/or coordination with qualified response organizations in the	ECCC recommends that the Proponent describe their Community Awareness and Emergency Communications plans in the DPD. This will allow for increased visibility for project stakeholders and surrounding communities that may be impacted by a potential environmental emergency.

			spatial boundaries associated with the Project including exercise and training plans for spill emergency response.	
ECCC-09	Table 6-1 – Project components Section 14 - Public and Environmental Safety	The Proponent identified plausible accident scenarios specific to the Project in Section 14. Within this section, a rail yard and "a new pipeline and on-site storage of heavy hydrocarbons for truck-out" were identified as Project components. ECCC notes that the Proponent did not include a train derailment, hazardous material road transport incident, or pipeline rupture scenario as potential accidents that could cause significant adverse effects to the environment. Additionally, risk ID #10 of Table 14-1 identifies natural disasters as a risk but omits the inclusion of forest fires in its description.	ECCC recommends that the Proponent include an assessment of the following potential accidents or malfunctions in the DPD: - train derailment, - hazardous material road transport incident, and - pipeline rupture and the inclusion of forest fires as a plausible natural disaster. ECCC also encourages Proponents to develop emergency response and spill contingency plans with mitigation measures to address plausible worst-case and alternate scenarios throughout every stage of the Project.	ECCC recommends that the Proponent evaluate all environmental risks related to their Project and include plans to mitigate spills or releases of hazardous or deleterious substances that may result from unplanned accidents and malfunctions at every stage of the Project.
ECCC-10	Executive Summary, pdf page 11	The project requires multiple ancillary, independent components in order for it to be carried out, including: - Construction of a pipeline loop of under 40 km to receive feed gas from the existing Enbridge Westcoast Transmission System (Westcoast Pipeline) by Enbridge - Construction of a new meter station take-off point by Enbridge - Construction of an approximately 508 millimeter (mm) (Nominal Pipe Size NPS) 20) diameter and minimum 2 km in length pipeline by either the Proponent or Enbridge - Transportation of LNG product by rail cars to the Ridley Island Export Logistics Platform (RIELP) project, located on lands administered by the Prince Rupert Port Authority (PRPA). - Storage of LNG product at RIELP Marine transportation of LNG product onto dedicated ships	The pipeline loop project, the new meter station, potential additional facilities at RIELP, as well as rail and marine transportation of LNG project are not currently included in the Project scope. ECCC understands that the IPD is to describe the project components, associated and ancillary works, and other characteristics to assist in understanding the potential project effects, and impacts on Indigenous peoples and rights of Indigenous peoples. ECCC recommends that the Proponent describe the extent to which the listed ancillary project components will be assessed as part of the federal impact assessment process.	The Proponent should describe the extent to which the listed ancillary project components will be assessed as part of the federal impact assessment process.
ECCC-11	Executive Summary, pdf page 10-12, page 46, page 51	The Proponent states "*The Site of the project is not on Federal lands nor is it within proximity to any known federal lands*" (page 10), The Proponent further states that, with respect to utilizing RIELP and the Fairview Terminal for LNG product storage and marine transportation, that "*This is a viable option that we are pursuing but still considering other options as we are uncertain at this time*."	The project involves the transportation of LNG product on rail cars to the RIELP project, which is located on federally administered lands by the PRPA. ECCC recommends that any other options that the Proponent is considering with respect to LNG product storage and marine transportation be provided.	ECCC recommends that the Proponent confirm whether RIELP will be used for LNG product storage, and that the Fairview Terminal will be used for LNG project marine transportation. Should RIELP / Fairview Terminal not be their confirmed LNG storage and marine transportation option, then ECCC recommends that the Proponent assess the other LNG product storage and marine transportation options that they are pursuing.
ECCC-12	Section 6.4, page 48	With respect to LNG cooling, the Proponent states that "*Cooling will be accomplished primarily from aerial coolers, however there will be a requirement for some process water for use in the CO_2 removal process. The source of this water is to be determined.*" ECCC notes that the source of the cooling water remains unclear and is required for an assessment of potential project-related environmental effects.	ECCC recommends that the source of the cooling water, either from groundwater or freshwater sources, be provided as there may be environmental effects arising from its extraction, transportation, or disposal.	ECCC recommends that the Proponent identify the sources of LNG cooling water as well as the environmental effects of its extraction, transportation and disposal in the DPD.
ECCC-13	Section 6.4, page 48	The Proponent states that heavy hydrocarbons will be removed during gas liquefaction and will be trucked off-site for disposal, however no disposal site is identified. The Proponent also states that removed water from the pre-treatment system will be stored on-site in produced water tanks for truck-out or other disposal methods.	ECCC recommends that the site and method for heavy hydrocarbon and other effluent disposal be provided.	ECCC recommends that the Proponent provide in the DPD, site descriptions and transport methodologies for heavy hydrocarbon and other effluent disposal.
ECCC-14	Section 6.4 page 46, Section 14, page 82	In Section 6.4 and 14, the Proponent states that the Project LNG will be shipped in ISO containers and that Proponent LNG tanker collisions (a maritime transport risk) is a potential accident or malfunction associated with the project. Additional LNG transportation details are required for ECCC to assesses the potential project-related impacts of this project activity.	ECCC recommends that marine transportation mode for LNG products be confirmed as different modalities may result in varying environmental effects.	ECCC recommends that the Proponent confirm the marine transport mode for LNG products in the DPD.