

# Environmental Assessment Certificate Application

## LNG Canada Export Terminal

Section 24 – Appendices

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**LNG CANADA**  
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Joint venture companies



## 24 APPENDICES

This section summarizes the changes to the environment for a substituted environmental assessment, as defined in subsections 5(1), 5(2), and 19(1) of CEAA 2012. Conclusions presented in Table 24.0-1 are provided with cross references to relevant detailed analyses in Sections 4 through 21. Summaries are structured to present:

- a description of how each environmental effect listed in section 5 of CEAA 2012 is considered in the Application
- an explanation of potential environmental effects, including cumulative effects, where relevant
- mitigation measures proposed to reduce these effects
- significance of residual effects, or with respect to section 5(1)(c) considerations, a conclusion regarding the adequacy of proposed mitigation measures
- recommendations of follow-up program elements, and
- how factors under section 19(1) of CEAA 2012 are taken into account and the conclusions drawn for each factor.

**Table 24.0-1: Substitution Summary Table**

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
<b>section 5(1)(a)</b>		
(i) Fish as defined in section 2 of the <i>Fisheries Act</i> and fish habitat as defined in subsection 34(1) of that Act	<p><i>Fish or fish habitat potentially affected by the Project</i></p> <p>Marine fish and fish habitat (as defined under the <i>Fisheries Act</i>) that support or are part of CRA fisheries are selected as a component of the marine resources VC (Section 5.8 of the Application). Freshwater and estuarine fish and fish habitat (as defined under the <i>Fisheries Act</i>) that support or are part of CRA fisheries are selected as a component of the freshwater and estuarine fish and fish habitat VC (Section 5.7 of the Application) for assessment.</p> <p>Marine fish habitat types that may be affected by the Project include marine riparian, intertidal and subtidal mudflat, salt marsh, and constructed intertidal and subtidal habitats. Freshwater and estuarine fish habitat types that may be affected include estuarine aquatic habitat, estuarine entrapment habitat, estuarine riparian habitat, and, mainstem, off-channel, and riparian habitats associated with a Kitimat River side channel, Moore Creek, Anderson Creek, and Beaver Creek.</p> <p>The full list of fish species considered in the freshwater and estuarine fish and fish habitat VC and marine resources VC is in Sections 5.7.3.3 and 5.8.3.2, respectively. Key fish species that support or are part of CRA fisheries potentially affected by the Project are:</p> <ul style="list-style-type: none"> <li>▪ chum (<i>Oncorhynchus keta</i>), coho (<i>O. kisutch</i>), chinook (<i>O. tshawytscha</i>), pink (<i>O. gorbuscha</i>), and sockeye (<i>O. nerka</i>) salmon</li> <li>▪ steelhead and rainbow trout (<i>Oncorhynchus mykiss</i>)</li> <li>▪ cutthroat trout (<i>Salmo clarki clarki</i>)</li> <li>▪ Dolly Varden (<i>Salvelinus malma</i>)</li> <li>▪ three-spined stickleback (<i>Gasterosteus aculeatus</i>)</li> <li>▪ sculpins (family Cottidae)</li> <li>▪ Pacific herring (<i>Clupea pallasii</i>)</li> <li>▪ eulachon (<i>Thaleichthys pacificus</i>)</li> <li>▪ cod (family Gadidae)</li> <li>▪ greenling (family Hexagrammidae)</li> <li>▪ perch (family Emiotocidae)</li> <li>▪ righteye flounder (family Pleuronectidae)</li> <li>▪ Dungeness crab (<i>Metacarcinus magister</i>)</li> </ul>	<p>5.7, 5.8</p> <p>5.7.3.3, 5.8.3.2</p>

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<ul style="list-style-type: none"> <li>▪ shrimp (family Pandalidae), and</li> <li>▪ bivalve molluscs (class <i>Bivalvia</i>).</li> </ul>	
	<p><i>Effects of the Project on fish and fish habitat, including cumulative effects</i></p> <p>Detailed description of Project effects on fish and fish habitat, including cumulative effects is provided in Sections 5.7 and 5.8. A summary of the effects considerations are provided below, with references to the sections of the Application containing detailed discussion provided in the adjacent column.</p> <p>Effects are assessed for:</p> <ul style="list-style-type: none"> <li>▪ changes in fish habitat (freshwater, estuarine, marine)</li> <li>▪ changes in fish health (freshwater, estuarine, marine)</li> <li>▪ changes in fish mortality risk (freshwater, estuarine, marine)</li> <li>▪ changes in behaviour of fish due to underwater noise and pressure waves (marine), and</li> <li>▪ cumulative effects (freshwater, estuarine, marine).</li> </ul>	<p>5.7.5.2, 5.8.5.2;                      5.7.5.4, 5.8.5.3;                      5.7.5.3, 5.8.5.4;                      5.8.5.5, 5.8.6.2;                      5.7.7, 5.8.8</p>
	<p><i>Technically and economically feasible mitigation measures and residual effects</i></p> <p>Provision of mitigation measures for Project effects on fish and fish habitat are detailed in sections listed in the adjacent column. Mitigation measures will reduce effects associated with the changes noted above. Key mitigation measures include:</p> <ul style="list-style-type: none"> <li>▪ A Fish Habitat Offsetting Plan will be developed and implemented to offset unavoidable permanent alteration or destruction of fish habitat from Project activities and works. The Plan will be developed in consultation with DFO, Haisla Nation, and key stakeholders. (Mitigation 5.7-8).</li> <li>▪ Measures to protect fish and fish habitat will be provided in various EMPs including a Fish Habitat Offsetting Plan, an Erosion and Sediment Control Plan, a Surface Water Management Plan, and a Wastewater Management Plan. (Mitigation 5.7-6).</li> <li>▪ Develop and implement a Marine Activities Plan (MAP) in accordance with applicable federal and provincial legislation and regulations. The MAP will include measures to address potential effects from dredge activities, pile installation (including marine mammal exclusion zone, soft start procedures and consideration of sound dampening technologies) and shipping. (Mitigation 5.8-2).</li> <li>▪ A Disposal at Sea Permit will be obtained prior to any sediment disposal in the marine environment. A disposal site will be selected in consultation with Environment Canada, DFO, affected Aboriginal Groups, and key stakeholders. (Mitigation 5.8-4).</li> </ul>	<p>5.8.7, 5.7.6</p> <p>5.7.5.3.2,                      5.7.5.4.2,                      5.8.5.3.3,                      5.8.5.4.3,                      5.8.5.5.3</p>

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<p><b>Summary of Project residual effects</b></p> <p>Detailed summaries of residual effects for the freshwater and estuarine fish and fish habitat VC and marine resources VC are provided in Table 5.7-17 and Table 5.8-14, respectively.</p> <p><i>Conclusion on significance of residual effects on fish and fish habitat</i></p> <p>With implementation of mitigation measures, residual effects (Table 5.8-14) on marine fish and fish habitat are assessed as not significant. Effective mitigation and offsetting measures that meet the guiding principle of no net loss of productivity are the key actions by LNG Canada to reduce or eliminate residual effects for freshwater and estuarine fish (Table 5.7-17). LNG Canada's compliance with applicable authorizations will result in residual effects that are not significant. Additional detail is provided in the sections listed in the adjacent column.</p> <p><i>Follow-up programs</i></p> <p>No follow-up programs are proposed for freshwater and estuarine fish and fish habitat or marine resources. Compliance monitoring to be implemented through Environmental Management Plans is described in Section 12 and Section 21 (Table 21.3-1).</p> <p>As it pertains to the freshwater and estuarine fish and fish habitat VC, the Project will require an authorization from DFO for serious harm to fish under section 35(2)(b) of the <i>Fisheries Act</i> due to permanent alteration or destruction (PAD) of fish habitat. A Fish Habitat Offsetting Plan will be developed and implemented to offset unavoidable permanent alteration or destruction of fish habitat from Project activities and works. The Plan will be developed in consultation with DFO, Haisla Nation, and key stakeholders. (Mitigation 5.7-8). To be accepted, an appropriate monitoring program will be required and must comply with DFO's fish protection policy and guidelines. Monitoring and reporting requirements must occur as part of this compliance and might include the following measures:</p> <ul style="list-style-type: none"> <li>▪ channel realignment effectiveness</li> <li>▪ improvements in benthic productivity</li> <li>▪ effectiveness of habitat enhancement structures</li> <li>▪ changes in substrate and water quality</li> <li>▪ stream productivity at offsetting sites (e.g., created or enhanced channels), and</li> <li>▪ fish population abundance and distribution at offsetting sites (e.g., created or enhanced channels).</li> </ul> <p>As it pertains to the marine resources VC, a post-construction Fish Habitat Offsetting Plan monitoring program will verify compliance with the terms of the <i>Fisheries Act</i> section 35(2) authorization. The program will be designed to verify compliance with stipulated mitigation and offsetting measures and to verify that offsetting performance criteria and objectives were met.</p>	<p>5.7.10, 5.8.12</p> <p>5.7.9, 12, 21 (Table 21.3-1)</p> <p>5.8.10</p>

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
(ii) Aquatic Species as defined in subsection 2(1) of the <i>Species at Risk Act</i>	<p>Aquatic species include fish and marine plants; fish are covered above. Marine plants, including all benthic and detached algae, marine flowering plants, brown algae, red algae, green algae and phytoplankton, are assessed in the marine fish and fish habitat component of the marine resources VC. Twelve species of marine algae, one species of seagrass, and five species of marsh plants were observed in the intertidal zone within the marine resources facility RSA during field studies. The section providing detailed discussion of identification of marine plants is listed in the adjacent column.</p>	<p>5.8.3.2.1 Marine Resources TDR (Section 4.1.2.2, Table 4.1-6)</p>
	<p><i>Effect of the project on marine plants, including cumulative effects</i></p> <p>Marine construction will result in alteration or destruction of marine riparian, intertidal, and subtidal habitats. In-water construction for this infrastructure will involve dredging, excavation, placement of scour protection, soil improvements, and pile installation.</p> <p>Disposal of dredged material at sea will result in the release and re-suspension of sediment into the water column, which could potentially result in a change in habitat structure and cover. Project activities and works, including dredging and the marine terminal footprint and changes in water depth following dredging, have the potential to change sediment transport, erosion, and deposition patterns within the marine resources facility LSA. Increased erosion or deposition of sediment may alter or destroy marine plants by smothering marine vegetation or removing the substrate that supports their growth.</p> <p>For cumulative effects, reasonably foreseeable projects are likely to result in temporary but reversible decreases in total area and productive capacity of marine plants within the marine resources facility RSA. However, any fish habitat losses require offsetting and other mitigation measures to ensure there is no net loss in total area or productive capacity of marine fish habitat (including marine plants) in the marine resources facility RSA. No residual effects from shipping activities on marine plants during the Project construction, operation and decommissioning phases are identified and no further assessment of cumulative change in marine plant habitat from shipping is warranted.</p>	<p>5.8.5.2.2</p> <p>5.8.8</p>
	<p><i>Technically and economically feasible mitigation measures and residual effects</i></p> <p>The key mitigation measures referenced above for <i>Fish</i> are expected to likewise reduce residual adverse effects on marine plants.</p>	<p>5.8.5.2.3</p>
	<p><i>Conclusion on significance of residual effects on marine plants</i></p> <p>Dredging and marine construction will result in the destruction of a limited amount of marine plants. Marine plants are expected to recolonize habitats in the marine terminal area following dredging and construction. With implementation of the offsetting plan, there will be no net loss in total area or productive capacity of marine plants within the marine resources facility RSA and the residual effects on marine plants are expected to be not significant.</p>	<p>5.8.5.2.3</p>

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<p><i>Follow-up programs</i></p> <p>See the follow-up programs listed in the previous section ((i) <i>Fish</i>).</p>	5.7.9, 5.8.10
(iii) Migratory Birds as defined in subsection 2(1) of the <i>Migratory Birds Convention Act</i> , 1994	<p><i>Migratory birds potentially affected by the Project</i></p> <p>Wildlife resources, which include migratory birds, is a VC because of the potential to interact with activities of the Project. Migratory birds that may be potentially affected by the Project are discussed in greater detail within the section listed in the adjacent column. In particular, critical habitat for marbled murrelet, a species at risk, was identified in the Project footprint. Harlequin duck and western sandpiper also have habitat in the Project footprint.</p>	5.6.3, 5.6.4
	<p><i>Effect of the project on migratory birds, including cumulative effects</i></p> <p>Migratory bird interactions with the Project will vary based upon their seasonal movement, breeding and/or feeding habits, and proximity of suitable habitat to the Project activities. Sections 5.6.4 through 5.6.8 discuss details on Project interactions, residual effects and cumulative effects relevant to wildlife resources. Effects categories considered as part of the Application are listed below, with reference to detailed discussion provided in the adjacent column.</p> <p>Effects are assessed for:</p> <ul style="list-style-type: none"> <li>▪ loss or change in suitable habitat</li> <li>▪ risk of injury or mortality, and</li> <li>▪ sensory disturbance or behavioural alterations.</li> </ul> <p>Loss or change in suitable habitat is assessed using habitat suitability modelling for key species, including western sandpiper, harlequin duck, and marbled murrelet, which are migratory birds. For cumulative effects, reasonably foreseeable future projects are expected to contribute to the loss or change in habitat for harlequin duck and western sandpiper; in particular, those projects that will lead to the loss of marine foreshore habitat. Loss of marine foreshore or riparian habitat that harlequin duck and western sandpiper use during migratory periods, as well as during overwintering for harlequin duck, is the primary effect mechanism for cumulative effects for these species. Both harlequin duck and western sandpiper have secure populations in BC and have access to additional suitable habitats in the RSA; therefore, the cumulative effects are unlikely to occur for these species.</p> <p>Marbled murrelet is sensitive to the loss and fragmentation of breeding habitat. Reasonably foreseeable projects are expected to contribute to the loss or change in habitat for marbled murrelet, in particular, those projects that will lead to further loss of old-growth habitat. Most loss is expected to be from proposed pipeline developments, which are generally located off floodplains where the highest-value marbled murrelet breeding habitat is found. In this context, the contribution of future development to cumulative effects on critical habitat is likely to be not significant (i.e., up to 0.02% of the 137,718 ha).</p>	5.6.5.2, 5.6.5.3, 5.6.6.2, 5.6.5.4, 5.6.6.3,  5.6.8

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<p><i>Technically and economically feasible mitigation measures and residual effects</i></p> <p>Provision of mitigation measures for Project effects on migratory birds are described in the sections listed in the adjacent column. Mitigation measures will include, but are not limited to, appropriate positioning of Project components, undertaking clearing activities during periods that are not deemed to be sensitive to migratory birds, implementing a raptor management plan, noise buffering, and speed and movement restrictions for both land and marine based vehicles or vessels.</p> <p><b>Summary of Project residual effects</b></p> <p>Overall, the residual effects assessed due to Project activities will potentially affect only a small percentage of the regional migratory bird populations (i.e., estimated at only a few individuals). With adherence to mitigation measures, the sustainability of migratory birds, as a result of any individual effect from the facility or shipping and activities, will not be affected.</p> <p><i>Conclusion on significance of residual effects on migratory birds</i></p> <p>The combined effects from the Project on migratory birds are determined to be not significant. Based on the quality and availability of baseline data and scientific information, habitat suitability modelling, the effectiveness of mitigation measures, and professional opinion of the assessment team, the level of confidence in this prediction is high.</p> <p>No follow-up programs or compliance monitoring are proposed for wildlife resources.</p>	<p>5.6.5.2, 5.6.5.3, 5.6.6.2, 5.6.5.4, 5.6.6.3</p> <p>5.6.7</p> <p>5.6.7</p>
<b>section 5(1)(b)</b>		
<p>A change to the environment that would occur on</p> <ul style="list-style-type: none"> <li>(i) Federal lands</li> <li>(ii) In another province</li> <li>(iii) Outside of Canada</li> </ul>	<p><i>Federal lands:</i></p> <p>With the exception of Project air emissions (including GHG emissions) that may disperse over or deposit on nearby federal lands, such as Indian Reserves, there will be no changes to the environment on federal lands. The Project is located on fee simple land owned by LNG Canada and RTA (leased to LNG Canada). Effects on air quality are addressed in the air quality assessment (Section 5.2). Effects of acid deposition from air emissions are addressed in the vegetation resources (Section 5.5), surface water quality (Section 5.9) and human health (Section 9.2) assessments.</p>	<p>5.2, 5.5, 5.9, 9.2</p>



CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<p><i>Another province</i></p> <p>A change to the environment in a province other than British Columbia as a result of the Project is limited to contributions of GHG emissions to national emissions estimates. No other environmental effects on another province, originating from this Project, will occur. Section 5.3 discusses residual effects associated with GHG emissions and how they may change national emission estimates. During construction, if emissions are assumed to be evenly distributed over the minimum number of construction years (5), the emissions in any given year will amount to approximately 51,148 tonnes CO<sub>2</sub>e/year, increasing national inventories by 0.007%.</p> <p>Based on 2011 levels, annual Project GHG emissions of 4.0 million tonnes CO<sub>2</sub>e during operation will increase the national emission total (699 million tonnes CO<sub>2</sub>e per year) by 0.57%. Based on the magnitude of emissions during operation, a GHG Management Plan in accordance with CEA Agency guidance (2003) will be prepared upon Project approval.</p> <p>Specific regulations or policy for the oil and gas sector that would enforce GHG emission reductions have not been defined by the federal government. Environment Canada, under Schedule 1 of the <i>Canadian Environmental Protection Act</i>, only requires facilities to report their GHG emissions annually if they emit more than 50,000 tonnes CO<sub>2</sub>e. The Project will therefore be required to report under this mechanism.</p> <p>LNG Canada will develop a detailed GHG Management Plan including reporting of emissions to Environment Canada. LNG Canada will also participate in the BC Carbon Tax system and incorporate best achievable technology (BAT) in Project design and implement best industry practice to reduce Project GHG emissions.</p>	<p>5.3.5, 5.3.6</p> <p>5.3.2</p> <p>5.3.5.2</p>
	<p><i>Outside of Canada:</i></p> <p>A change to the environment outside of Canada as a result of the Project is limited to contributions of GHGs to global emissions estimates. No other environmental effects will occur outside of Canada.</p> <p>Section 5.3 discusses residual effects associated with GHG emissions and how they may change global emission estimates. Based on the latest available data, total global emissions were 43,967 Mt CO<sub>2</sub>e in 2010. Annual Project GHG emissions of 4.0 Mt CO<sub>2</sub>e will increase the global emission total by 0.009%. This will cause a small material change to emission levels. Consequently, global effects of Project GHGs are considered to be not significant.</p>	<p>5.3.5, 5.3.6</p>

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
<b>section 5(1)(c)</b>		
(i) A change to the environment that may affect health and socio-economic conditions, with respect to Aboriginal Groups	<p><i>Views of potentially affected Aboriginal Groups (as provided to LNG Canada).</i></p> <p>Aboriginal Interests were identified based on input from Aboriginal Groups through the Project's consultation activities (including review of the dAIR, the Aboriginal Consultation Plan, Aboriginal Consultation Reports and Part C of the Application) and on TU, TK information provided by Aboriginal Groups.</p> <p>Aboriginal Health</p> <p>The potential effects of the Project on the environment that may in turn affect Aboriginal health are:</p> <ul style="list-style-type: none"> <li>▪ air quality</li> <li>▪ acoustics</li> <li>▪ water quality, and</li> <li>▪ country foods and Aboriginal diet and nutrition.</li> </ul> <p>Potential effect mechanisms are:</p> <ul style="list-style-type: none"> <li>▪ Aboriginal peoples' exposure to higher levels or concentrations of harmful materials</li> <li>▪ adverse effects on Aboriginal health</li> <li>▪ the avoidance of country foods and the resulting increased consumption of less nutritious market foods, and</li> <li>▪ the change in accessibility and/or viability of country foods and the resulting increased consumption of less nutritious market foods.</li> </ul> <p>Aboriginal socio-economic conditions</p> <p>The potential effects of the Project on the environment that may in turn affect Aboriginal socio-economic conditions are:</p> <ul style="list-style-type: none"> <li>▪ air quality</li> <li>▪ water quality</li> <li>▪ traditional harvesting and diet and nutrition</li> <li>▪ visual quality, and</li> <li>▪ marine transportation and use.</li> </ul>	<p>17.1</p> <p>15.4.1, 15.4.2</p> <p>15.5.1, 15.5.2</p>

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<p>Potential effect mechanisms are:</p> <ul style="list-style-type: none"> <li>▪ the contribution to increased demand on health care and emergency services and poorer health outcomes</li> <li>▪ changes in diet and nutrition (due to decreased health and safety of country foods that are eaten and avoidance of country foods)</li> <li>▪ adverse effects on traditional harvesting activities that depend on those species and the Aboriginal social and economic systems that are based on that traditional harvesting activity</li> <li>▪ reduced consumption of country foods among Aboriginal people, resulting in increased consumption of less nutritious market food alternatives and changes in diet and nutrition within Aboriginal communities</li> <li>▪ effects on commercial fishing activity carried out by Aboriginal harvesters</li> <li>▪ effects on visual quality from marine- and shore-based viewpoints, which may in turn affect tourism, recreation, quality of life and cultural identity, and</li> <li>▪ interference with marine recreation and tourism that could adversely affect Aboriginal businesses involved in those activities and lead to adverse economic effects in Aboriginal communities.</li> </ul> <p>Additional detailed discussion is provided in the sections listed in the adjacent column.</p>	
	<p><i>Mitigation measures</i></p> <p>LNG Canada has, through consultation, developed effective mitigation measures to address the potential adverse effects of the Project on Aboriginal health and socio-economic conditions. Mitigation measures described are a combination of measures that address the potential effects on specific VCs assessed in Part B that inform the assessment on Aboriginal health and socio-economic conditions and additional mitigation measures developed to respond directly to this specific section 5(1)(c) factor. Based on the mitigation, LNG Canada considers the potential effects on Aboriginal health and socio-economic conditions to be adequately addressed. However, LNG Canada will continue to consult Aboriginal Groups throughout the Application Review phase regarding the potential adverse effects of the Project on Aboriginal health and socio-economic conditions and measures to mitigate potential adverse effects. Mitigation measures will be updated to reflect views heard through that process.</p> <p>Discussion of the adequacy of mitigation as relevant to health and socio-economic conditions is provided in Section 15.4.3 and 15.5.3, respectively, with specific mitigation measures described within specific VCs assessed in Part B of the Application.</p>	15.4.3, 15.5.3
	<p><i>Significance of residual effects</i></p> <p>Discussion of residual effects is provided in Section 15.4.2 and Section 15.5.2.</p> <p>For residual and cumulative effects on Aboriginal health, LNG Canada anticipates negligible to low magnitude effects. A low to moderate effect on country food consumption and, consequently, Aboriginal diet and nutrition is anticipated, with the largest effect localized within or immediately surrounding the Project footprint.</p>	15.4.2, 15.5.2

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<p>For Aboriginal socio-economic conditions LNG Canada anticipates residual and cumulative effects to be low to negligible for the majority of Project effects listed in Table 15.3-1. LNG Canada anticipates a moderate effect on traditional harvesting and Aboriginal diet and nutrition in LSA #1 (the LSA for Project facility construction, operation, and decommissioning effects that have the potential to adversely affect the Aboriginal Interests of Haisla Nation) and LSA #2 (the LSA for Project facility residual effects during operations related to air emissions that have the potential to adversely affect the Aboriginal Interests of Haisla Nation, Kitselas First Nation, Kitsumkalum First Nation, Lax Kw'alaams First Nation, Gitga'at First Nation, and Metlakatla First Nation within Aboriginal Interests). The largest effect will be localized within the area in and immediately surrounding the Project footprint. Overall residual effects on consumptive harvesting activity due to Project shipping activities are anticipated to be low in magnitude. The reduction in visual quality along the marine access route is anticipated to be, on average, of moderate magnitude.</p>	
	<p><i>Follow-up programs</i></p> <p>Follow up programs defined in Section 14.31 are applicable to health and socio-economic conditions for Aboriginal Groups. LNG Canada will develop management plans for the construction and operation of the Project, which will include follow-up and communication with local and regional governments, Aboriginal Groups, and other stakeholders.</p>	14.31, 21
(ii) A change to the environment that may affect physical and cultural heritage, with respect to Aboriginal Groups	<p><i>Views of potentially affected Aboriginal Groups (as provided to LNG Canada).</i></p> <p>The views of Aboriginal Groups were identified based on input from LNG Canada's consultation activities (including review of the dAIR, the <i>Aboriginal Consultation Plan</i>, Aboriginal Consultation Reports and Part C of the Application) and on TU, TK information provided by Aboriginal Groups.</p>	17.1
	<p>The potential effects of the Project on the environment that may in turn affect Aboriginal physical and cultural heritage are:</p> <ul style="list-style-type: none"> <li>▪ effects on Aboriginal physical and cultural heritage through damage to or removal of culturally modified trees (CMTs)</li> <li>▪ effects on Aboriginal physical and cultural heritage through alteration or removal of use of terrestrial areas during vegetation clearing and construction</li> <li>▪ effects on Aboriginal physical and cultural heritage through alteration or removal of use of intertidal areas during dredging</li> <li>▪ effects on Aboriginal cultural heritage through adverse effects on harvested species and associated traditional harvesting activity and consumption of country foods</li> <li>▪ change in abundance of species of interest could affect Aboriginal cultural heritage through adverse effects on traditional harvesting activity and consumption of country foods)</li> <li>▪ change in health and diversity of species of interest because air emissions could affect Aboriginal cultural heritage through adverse effects on traditional harvesting activity and a reduction in the consumption of country foods due to perceived contamination</li> </ul>	15.6.1, 15.6.2

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<ul style="list-style-type: none"> <li>▪ loss or change in habitat for species of interest could affect Aboriginal cultural heritage through adverse effects on traditional harvesting activity and a reduction in the consumption of country foods</li> <li>▪ acidification or eutrophication of streams and lakes could affect Aboriginal cultural heritage through adverse effects on traditional harvesting activity and a reduction the consumption of country foods</li> <li>▪ reduction in visual quality at the LNG facility or along the marine access route could affect Aboriginal cultural heritage, and</li> <li>▪ reduction in the consumption of country foods by Aboriginals for ceremonial purposes.</li> </ul> <p>Additional detailed discussion is provided in the sections listed in the adjacent column.</p>	
	<p><i>Mitigation measures</i></p> <p>LNG Canada has, through consultation, developed effective mitigation measures to address the potential adverse effects of the Project on Aboriginal physical and cultural heritage. The mitigation measures are a combination of measures proposed to address the potential effects on specific VCs assessed in Part B of the Application that inform the assessment of Aboriginal physical and cultural heritage and additional mitigation measures developed to respond directly to this specific section 5(1)(c) factor. Based on mitigation, LNG Canada considers the potential effects on Aboriginal physical and cultural heritage to be adequately addressed. However, LNG Canada will continue to consult Aboriginal Groups throughout the Application Review phase regarding the potential adverse effects of the Project on Aboriginal physical and cultural heritage and measures to mitigate potential adverse effects. Mitigation measures will be updated to reflect views heard through that process.</p> <p>Detailed discussion of the adequacy of mitigation relevant to physical and cultural heritage is provided in Section 15.6.2 and Section 15.6.4.</p>	15.6.2, 15.6.4
	<p><i>Significance of residual effects</i></p> <p>Discussion of the residual effects is provided in section 15.6.3. For residual effects on Aboriginal physical and cultural heritage LNG Canada anticipates low to moderate effects on both physical and cultural heritage, with effects taking place primarily within the Project footprint. No cumulative effects on Aboriginal physical and cultural heritage are predicted.</p>	15.6.3
	<p><i>Follow-up program</i></p> <p>Follow up programs defined in Section 14.31 are applicable to physical and cultural heritage conditions for Aboriginal groups. LNG Canada will develop management plans for the construction and operation of the Project, which will include follow-up and communication with local and regional governments, First Nations communities, and other stakeholders.</p>	14.31, 21

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
(iii) A change to the environment that may affect current use of lands and resources for traditional purposes, with respect to Aboriginal Groups	<p><i>Views of potentially affected Aboriginal Groups (as provided to LNG Canada).</i></p> <p>Aboriginal Interests were identified based on input from Aboriginal Groups through LNG Canada's consultation activities (including review of the dAIR, the Aboriginal Consultation Plan, Aboriginal Consultation Reports and Part C of the Application) and on TU, TK information provided by Aboriginal Groups.</p>	17.1
	<p>Project-related effects could adversely affect the current use of land and resources for traditional purposes by Aboriginal people through effects on preferred harvested species, effects on the aesthetic experience of land and marine use, and effects on sites, landforms and natural features associated with ritual or spiritual use. These potential effects are assessed in detail in Section 14.</p> <p>A comprehensive discussion is provided in the sections listed in the adjacent column.</p>	14.13 to 14.27, 15.7
	<p><i>Mitigation measures</i></p> <p>LNG Canada has, through consultation, developed effective mitigation measures to address the potential adverse effects of the Project on current use of lands and resources for traditional purposes. The mitigation measures are a combination of measures to address the potential effects on specific VCs assessed in Part B of the Application that inform the assessment of current use of lands and resources for traditional purposes and additional mitigation measures developed to respond directly to this specific factor. Based on mitigation, LNG Canada considers the potential effects on current use of lands and resources for traditional purposes to be adequately addressed. However, LNG Canada will continue to consult Aboriginal Groups throughout the Application Review phase regarding the potential adverse effects of the Project on current use of lands and resources for traditional purposes and measures to mitigate potential adverse effects. Mitigation measures will be updated to reflect views heard through that process.</p> <p>A comprehensive list of mitigation measures for effects on use of lands and resources for traditional purposes can be found in the sections listed in the adjacent column.</p>	14.13 to 14.27, 15.7.4
	<p><i>Significance of residual effects</i></p> <p>Discussion of residual effects is provided in the sections listed in the adjacent column. For effects on the current use of lands and resources for traditional purposes, LNG Canada has concluded that the LNG facility will have a low to moderate magnitude effects within Aboriginal Interest LSA # 1; a negligible to low level of effects within the Aboriginal Interests LSA #2; and low magnitude effects within the Aboriginal interest LSA # 3 (vessel traffic associated with the Project during construction, operation, and decommissioning that has the potential to affect harvesting-related Aboriginal Interests, traditional governance systems, and the cultural identity of Haisla Nation, Gitga'a't First Nation, Gitxaala Nation, Metlakatla First Nation, Lax Kw'alaams First Nation, Kitselas First Nation, and Kitsumkalum First Nation).</p>	14.13 to 14.27

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<p><i>Follow-up program</i></p> <p>Follow up programs defined in section 14.31 are applicable to current use of lands and resources for traditional purposes by Aboriginal Groups.</p> <p>LNG Canada will develop management plans for the construction and operation of the Project, which will include follow-up and communication with local and regional governments, Aboriginal Groups, and other stakeholders.</p>	14.31, 21
(iv) A change to the environment that may affect any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, with respect to Aboriginal Groups	<p>Potential effects to a site or thing that is of historical, archaeological, paleontological or architectural significance to Aboriginal groups unique to information detailed above was not found to occur in the Project footprint, LSA or RSA. If any features of archaeological significance to Aboriginal Groups are uncovered during construction activities, a Chance-Find Protocol (as per requirements under the <i>Heritage Conservation Act</i>) will be used to properly address any archaeological findings.</p>	14.16.4
<b>section 5(2)(a)</b>		
A change (other than covered under section 5(1)(a) or (1)(b) above) that is directly linked or necessarily incidental to a federal authority's exercise of power... that would permit the Project, or part of the Project, to proceed	<p>It is anticipated that the following federal permits and approvals will be required as part of the Project:</p> <ul style="list-style-type: none"> <li>▪ Permit for disposal at sea must be obtained under section 127(1) of the <i>Canadian Environmental Protection Act</i> <ul style="list-style-type: none"> <li>• Only material that meets the Environment Canada screening criteria for sediment will be considered for disposal at sea. A disposal site will be selected in consultation with Environment Canada, DFO, and Aboriginal Groups. The designated disposal at sea site will not be located in an area with high structural complexity or sensitive habitats, and it will have high resilience. Benthic communities and fish assemblages in the soft bottom habitat at a disposal site are expected to recover within two years following disposal. Therefore, disposal of dredged material at sea is not expected to result in the permanent alteration or destruction of fish habitat, or changes in fish habitat that affect the population viability of any fish species (including species at risk). GHG emissions from shipping movements during construction have been calculated as part of Section 5.3.5.2. An estimated 23,123 tCO<sub>2e</sub> will be generated by ship movement during construction. The amount of GHG emissions associated with movement of dredged material is considered minor.</li> </ul> </li> </ul>	<p>2.6.2</p> <p>5.8.5.2.4</p> <p>5.8.5.4.4</p> <p>7.4.5.2.3</p>

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<ul style="list-style-type: none"> <li>• Dredging and disposal of marine sediment will interfere with recreational boating and recreational, commercial, and Aboriginal fishing by introducing additional marine traffic and support vessels (e.g., cranes, tug boats, etc.) and by providing berthing for commercial LNG vessels. Residual effects of increased vessel traffic and restrictions on recreational, Aboriginal and commercial vessels will be contained within the LSA and will not cause permanent impairment to marine resource use, including recreational activities.</li> <li>▪ Authorization must be obtained to carry out a proposed work, undertaking or activity causing serious harm to fish under section 35(2)(b) of the <i>Fisheries Act</i> <ul style="list-style-type: none"> <li>• Harm to fish from dredging and marine construction will be limited to the facility LSA, and harm to fish from disposal at sea will be limited to a designated disposal site. Fish and invertebrate populations are expected to have high resilience because they are relatively healthy in the facility RSA and basin study areas and many have adapted to recover from frequent human and natural disturbances (industrial activities, variations in river outflow and TSS, and tidal currents). The duration of harm to fish from the various Project activities, except dredging and disposal at sea, will be short-term and will occur repeatedly as a multiple regular event during the construction phase. Effects of dredging and disposal at sea will be limited to the Project footprint (i.e., dredge and disposal area), and long-term because they will occur as multiple irregular events during construction and operation. With mitigation, it is anticipated that only a limited number of individual fish relative to the total population size in the facility RSA will be harmed. The combined harm to fish from dredging, disposal at sea, and marine construction is anticipated to be negligible. Although harm to individual fish is irreversible, the effects of harm to fish populations in the facility RSA and at a designated disposal site are reversible. A Fish Habitat Offsetting Plan will be developed and implemented to offset unavoidable permanent alteration or destruction of fish habitat from Project activities and works. The Plan will be developed in consultation with DFO, Haisla Nation, and key stakeholders (Mitigation 5.7-8).</li> </ul> </li> <li>▪ Approval under section 5(1) of the <i>Navigation Protection Act</i> will be required for works in and about navigable water. Approval will be required for construction of the marine terminal, and may be required for the water intake depending on final engineering design.                     <ul style="list-style-type: none"> <li>• Risk of physical injury or mortality to freshwater fish due to construction of the intake can be effectively managed through fish exclusion incorporated into the design of the intake and are considered not significant.</li> <li>• Harm to fish from construction of the marine terminal will be limited to the facility LSA and is discussed in section 5(1)(a) above.</li> <li>• Migratory birds may become disoriented at night due to navigational lighting requirements at the marine facility causing bird strikes and possible bird mortalities. Lighting that is appropriate for avoiding migratory bird mortalities while maintaining aeronautical and site safety will be identified in consultation with Transport Canada. Effects on migratory birds are anticipated to be minor and not significant.</li> </ul> </li> </ul>	<p>5.7.5.3.3</p> <p>5.8.5.4.4</p> <p>5.6.5.3.1</p> <p>7.3.5.2</p> <p>7.4.5.2.3</p>



CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<ul style="list-style-type: none"> <li>• Visual quality will be affected at some nearby receptor locations by introducing nighttime lighting at the terminal to conform to navigational and aeronautical (e.g., flare towers) lighting requirements. It is anticipated that terrain and vegetation screening may obstruct some of the facility or marine terminal light for more distant receptors within the District of Kitimat. Effects on visual quality are anticipated to be minor and not significant.</li> <li>▪ Dredging and disposal of marine sediment will interfere with recreational boating and recreational, commercial, and Aboriginal fishing by introducing additional marine traffic and support vessels (e.g., cranes, tug boats, etc.) and by providing berthing for commercial LNG vessels. Residual effects of increased vessel traffic and restrictions on recreational, Aboriginal and commercial vessels will be contained within the LSA and will not cause permanent impairment to marine resource use, including recreational activities. Export license under section 117 of the <i>National Energy Board Act</i> was granted on February 4, 2014 (Licence GL-300).</li> <li>• With regard to the potential occurrence of an accident or malfunction scenario, in over 40 years of LNG storage and terminal operations world-wide, there have been no significant offsite public injuries or property damage, and millions of tonnes of LNG have been transported, stored and used without any serious public exposure.</li> </ul>	
<b>section 5(2)(b)</b>		
<p>An effect, other than those referred to in paragraph (1)(c), of any change referred to in paragraph (a) on (i) health and socio-economic conditions</p>	<p>The Project has the potential to cause changes in local diet and nutrition through decreasing the consumption of country food both directly and indirectly as a result of ecological change and access (accessibility and availability) to food sources, employment and income, and local economic change.</p> <p>The Project could affect the consumption of country foods through the following pathways:</p> <ul style="list-style-type: none"> <li>▪ change in accessibility to marine country foods because of constructed marine facilities and required Project-related safety zones</li> <li>▪ change in the viability of aquatic country foods, based on residual effects from Project activities and physical works (assessed in Sections 5.5, 5.6, 5.7, and 5.8), thereby affecting availability</li> <li>▪ perceived decreased quality of country foods, leading to conscious decisions by some people to forego consumption of country foods, and</li> <li>▪ changes in the availability of country foods through changes in the abundance of wildlife and vegetation near the Project footprint. This could in turn affect nutrition and metabolic outcomes.</li> </ul> <p>Although the potential for contamination of country foods leading to adverse human health effects will be minimal (see Section 9.2), the perception that the quality of food has been adversely affected by the Project could lead to changes in local diets. LNG Canada will provide Project information to the local community and Aboriginal Groups and hold information sessions to facilitate ongoing discussion to resolve concerns (Mitigation 7.5-9).</p>	7.5.5.3

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<p>The Project has the potential to affect socio-economic conditions by changing the environment. Project activities related to the LNG facility could lead to changes in access to hunting, trapping, and harvesting areas. Effects on wildlife and fisheries could also lead to a decline in income for ecotourism operations.</p> <p><b>Recreation Fishing</b></p> <p>In the LSA and RSA, the majority of local residents avoid fishing and collecting shellfish or crab near the proposed marine terminal due to perceived chemical contamination in the estuary. Fishing for salmon and halibut occurs along the east side of the channel in deeper water. Recreational fishers are known to target Dungeness crabs in the shallow areas between the Methanex jetty and RTA Wharf "B." However, commercial and Aboriginal fishing within this area was not acknowledged during consultation.</p> <p>In correlation with the temporary mobilization of TSS and associated contaminants during the construction phase, and the public's and Aboriginal Groups' current perception of contamination of water in the LSA, it is likely that the local population will continue to avoid recreational fishing in close to the Project footprint. Consequently, due to the small area involved and the low reliance on the area by fishers, the potential effects of the proposed marine terminal on fisheries and shoreline harvesting will be of negligible magnitude.</p> <p><b>Commercial fishing</b></p> <p>The majority of fisheries do not overlap with the marine access route; or, the gear or practices used limits interactions with shipping traffic. Implementation of the Marine Activities Plan (MAP), along with other mitigation measures, will reduce effects on boat-based fishing and shoreline harvesting opportunities.</p> <p><b>Dietary requirements</b></p> <p>Despite limited data, there exists the potential that a proportion of diet from country foods could be adversely affected due to residual effects on diet and nutrition as a result of the Project. There is a perception that country foods can become contaminated as a result of Project activities. These perceptions could lead to conscious decisions to forego the consumption of country foods thought to be contaminated by Project activities.</p> <p>Mitigation measures targeted at increasing awareness of changes in access and quality of country foods include:</p> <ul style="list-style-type: none"> <li>▪ Inform the local community and Aboriginal Groups of changes in access to the Project footprint and marine environment potentially affecting access to country foods (Mitigation 7.5-8).</li> </ul> <p>Such measures will mitigate potential decisions to forego consumption of country foods potentially affecting diet. Therefore, the residual effect on diet and nutrition is anticipated to be not significant.</p> <p><b>Cumulative Effects</b></p> <p>Cumulative residual effects of the overlapping projects are not expected to restrict access to or affect the availability of country foods in a magnitude such that changes occur to the composition of diets or affect nutrition. Effects on socio-economic conditions are also perceived to be of negligible magnitude, given the limited interaction the Project will have with commercial fishing.</p>	<p>7.5.5.3</p> <p>7.5.8</p>

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	<p><i>Mitigation measures</i></p> <p>A Fish Habitat Offsetting Plan will be developed and implemented to offset unavoidable permanent alteration or destruction of fish habitat from Project activities and works. The Plan will be developed in consultation with DFO, Haisla Nation, and key stakeholders (Mitigation 5.7-6). With implementation of the Plan, the total area and productive capacity of fish habitat, and aquatic species that support or are part of CRA fisheries, such as salmon and Dungeness crab, will be maintained or increased. Cumulative effects are expected to have a minor effect on diet and nutrition. Consequently, effects on public health and socio-economic conditions through change in fish habitat are also expected to be of minor magnitude.</p>	<p>5.8.5 7.5.8.4</p>
	<p><i>Significance of residual effects</i></p> <p>On the basis of mitigation, effects on health and socio-economic conditions for the public will be of negligible magnitude and not significant.</p>	<p>5.7.6, 7.5.5.3</p>
	<p><i>Follow-up Program</i></p> <p>No follow-up programs are proposed for effects to health and socio-economic conditions. Compliance monitoring to be implemented through Environmental Management Plans is described in Section 12 and Section 21 (Table 21.3-1). LNG Canada will develop and implement a compliance monitoring plan to assess whether the mitigation measures for health and socio-economic effects are effective. The plan will include criteria, identified milestones, and an outline of the resources required to monitor each mitigation measure. The program is also an internal requirement of LNG Canada's corporate Social Responsibility Program.</p>	<p>7.5.10</p>
(ii) physical and cultural heritage	<p>Because there are no physical and cultural heritage sites in the Project footprint, changes to the environment are not considered to lead to an effect on physical and cultural heritage, as they pertain to the public.</p>	
(iii) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance	<p>There are no structures, sites or things of historical, paleontological or architectural significance in the Project footprint, LSA or RSA. If any features of archaeological significance to the public are uncovered during construction activities, a Chance-Find Protocol (as per requirements under the <i>Heritage Conservation Act</i>) will be used to properly address any archaeological findings.</p>	

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
<b>Section 19(1)</b>		
(a)(b) Accidents or Malfunctions	<p>Section 10 evaluates environmental effects that may result from credible worst-case Project-related accidents or malfunctions. The section also identifies design measures, as well as response and contingency measures, selected to reduce incident risk and consequence. Detailed discussion of each scenario can be found in the sections listed in the adjacent column.</p> <p>A list of the accident or malfunctions scenarios assessed in Section 10 are:</p> <ul style="list-style-type: none"> <li>▪ spill of hazardous materials (facility related)</li> <li>▪ loss of containment of LNG in the LNG process area and storage site, or loading line corridor</li> <li>▪ emergency LNG facility shutdown</li> <li>▪ explosion and/or fire, and</li> <li>▪ vessel grounding or collision.</li> </ul> <p>Through an assessment of credible worst-case accidents or malfunctions, LNG Canada has identified and will implement Project design and mitigation measures best suited to reduce associated risks and will comply with all regulatory requirements. In the unlikely occurrence of a serious accident or malfunction, LNG Canada would rapidly implement its proven Project risk management framework (Section 10.1) to limit effects on staff, the public and the environment. With the exception of potential cumulative effects of vessel collisions with marine mammals (discussed in Marine Resources TDR), effects due to accidents or malfunctions are considered to be not significant.</p>	<p>10.1</p> <p>10.2</p> <p>10.3</p> <p>10.4</p> <p>10.5</p> <p>10.6</p> <p>10.8</p> <p>10.7</p>
(c) Comments from the public	<p>A summary of public consultation, including relevant stakeholders, consultation activities and the outcomes of consultation are described in Section 18. Key concerns raised during consultation are:</p> <ul style="list-style-type: none"> <li>▪ project site layout and location, including concerns about the flare stack and the placement of the LNG loading line corridor</li> <li>▪ potential effects on marine mammals, including interactions with LNG carriers</li> <li>▪ potential effects on air quality from LNG facility and shipping emissions, including potential acidification and effects on human and ecological health</li> <li>▪ potential effect on freshwater resources, noting the importance of fishing in the Kitimat River and its tributaries in near the Project site</li> <li>▪ potential effects on the shoreline from vessel wake</li> <li>▪ housing availability and affordability, and</li> <li>▪ effects on infrastructure and services, including emergency response, health and transportation infrastructure.</li> </ul>	<p>18</p>

<b>CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor</b>	<b>Summary of Assessment</b>	<b>Section(s) in Application providing further information</b>
(d) Purpose of the designated Project	<p>The purpose of the Project is to convert natural gas into LNG and develop the LNG export industry in BC.</p> <p>LNG exported from the Project will connect the abundant natural gas resources in the WCSB to the growing worldwide demand for LNG, including in the Asia-Pacific region. The North American gas market has experienced a dramatic shift in recent years, where North American gas supply now exceeds forecasted near- and long-term demand. Increased gas production from new gas fields in the United States have substantially reduced the share of the continental gas market served by the WCSB. Unconventional gas plays in Western Canada have also substantially enhanced the resource potential of the WCSB.</p> <p>Diversification of international export markets is a key initiative of BC's Natural Gas Strategy and the federal energy framework, which aims to establish Canada as a global leader in energy supply, use, and innovation. The Project will allow access to these global markets for LNG, including the Asia-Pacific region for which the WCSB represents one of the closest and most attractive long-term supply sources.</p>	2.2.2
(g) Alternative Means	<p>LNG Canada evaluated alternative designs and technologies for the Project as alternative means for undertaking the Project, such as:</p> <ul style="list-style-type: none"> <li>▪ an alternative marine access route</li> <li>▪ an alternative location for the marine terminal</li> <li>▪ power supply options</li> <li>▪ disposal options for marine sediment</li> <li>▪ alternative sites for the temporary workforce accommodation centre(s).</li> </ul> <p>Detailed discussion is provided in the sections listed in the adjacent column.</p>	2.3.1 2.3.2 2.3.3 2.3.4 2.3.5
(h) Changes to the Project that may be caused by the Environment	<p>Section 11 includes an assessment of the environmental conditions that have the potential to adversely affect the Project. The Project could be subject to the following environmental factors:</p> <ul style="list-style-type: none"> <li>▪ climate change                             <ul style="list-style-type: none"> <li>• temperature and precipitation</li> <li>• sea level rise</li> </ul> </li> <li>▪ extreme weather events                             <ul style="list-style-type: none"> <li>• temperature</li> <li>• precipitation and flooding</li> <li>• wind and waves</li> </ul> </li> <li>▪ seismic activity and tsunamis, and</li> <li>▪ forest fires.</li> </ul>	11.3  11.4   11.5 11.6

CEAA 2012 Sec 5 Effect or Sec 19 (1) Factor	Summary of Assessment	Section(s) in Application providing further information
	Detailed discussion of potential changes caused by the environment, subsequent design changes and mitigation measures are provided in the sections listed in the adjacent column.	
(i) Follow-up Program	Discussion of follow-up programs is included in the VC sections, where relevant. A summary of follow-up programs and compliance monitoring is included in Section 21.	21
(j) Environmental Effects Mitigation Measures Cumulative Effects Significance of Environmental Effects of the Project	Section 19(1) factors are covered as part of section 5(1)(a,b,c) and 5(2)(a,b) above, where applicable.	

