

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
-----------------------------	--------------------------	--------------------------	-----------------------------------	------------------------------

Exec Sum	Page iii	1 <sup>st</sup> para. and produce up to 19.2 million tonnes	and produce up to 20.52 million tonnes	
Exec Sum	Page iii	2 <sup>nd</sup> para. "fossil-fired"	<i>fossil fuel-fired</i>	Suggested edits
1.1	Page 1, 1 <sup>st</sup> para.	Pacific NorthWest LNG Limited Partnership (the proponent) proposes to construct and operate the Pacific NorthWest LNG Project (the Project), a liquefied natural gas (LNG) facility on Lelu Island, within the District of Port Edward, British Columbia (B.C.). The Project is proposed to be located primarily on federal lands and waters administered by the Prince Rupert Port Authority. The Project would convert natural gas into LNG for export to Pacific Rim markets in Asia.	<p>Please make the following correction:</p> <p>At full build-out, the facility would receive approximately 3.2 billion standard cubic feet per day, or 9.1 x 10<sup>7</sup> cubic metres (m<sup>3</sup>) per day, of pipeline grade natural gas, and produce up to 20.52 million tonnes per annum of LNG.</p>	Revised engineering estimate

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
		<p>At full build-out, the facility would receive approximately 3.2 billion standard cubic feet per day, or <math>9.1 \times 10^7</math> cubic metres (m<sup>3</sup>) per day, of pipeline grade natural gas, and produce up to <u>19.2</u> million tonnes per annum of LNG.</p>		
1.2.1	Page 1, para. 1	<p><i>Environmental Assessment Requirements</i></p> <p>The Project is subject to CEAA 2012 because it involves activities that are designated by the <i>Regulations Designating Physical Activities</i> (the Regulations). Specifically, the Project includes the construction, operation and decommissioning of a new <u>fossil-fired</u> electrical generating facility, a new facility for the liquefaction, storage of liquefied natural</p>	<p>Please make the following edit:</p> <p>Specifically, the Project includes the construction, operation and decommissioning of a new <i>fossil fuel-fired</i> electrical generating facility, a new facility for the liquefaction, storage of liquefied natural gas processing, and a new marine terminal that meet the descriptions.....</p>	<p>Note: Same edit needs to be made to Executive Summary.</p>

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
		gas processing, and a new marine terminal that meet the descriptions and thresholds set out in items 2(a), 14(d), and 24 (c) of the Schedule to the Regulations.		
1.2.5	Page 5, 4 <sup>th</sup> para.	The Project area (footprint of the Project) is the geographic area physically disturbed or occupied by the Project that includes approximately 160 ha on Lelu Island, 0.3 ha on the mainland (bridge abutment and access road), 0.2 ha covered by the bridge crossing, approximately 90 ha offshore area covered by the marine terminal, and 8 ha offshore associated with the Materials Offloading Facility. The total area of the Project development is	Please make the following corrections:  <i>The Project area (footprint of the Project) is the geographic area physically disturbed or occupied by the Project that includes approximately 160 ha on Lelu Island, 1.2 ha on the mainland (bridge abutment and access road), 0.26 ha covered by the bridge crossing, approximately 8.0 ha offshore area covered by the marine terminal, and 8</i>	Revised Project Development Area estimates.  Major change was Option F marine terminal area (e.g., large dredge) to new revised suspension bridge trestle terminal (much less area).

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
		approximately 260 ha.	<i>ha offshore associated with the Materials Offloading Facility. The total area of the Project development is approximately 177 ha.</i>	
2.3	Page 11, para. 1	<b>LNG Trains:</b> Natural gas transported to the facility would be processed in LNG trains. Each train would consist of a feed gas receiving unit, pressure let down unit, gas treatment unit, gas dehydration unit, mercury removal unit, <u>fractionation unit</u> , and liquefaction unit. The facility would contain up to three identical <u>6.4</u> million tonnes per annum liquefaction trains. Refrigeration compressors, for liquefaction, would be powered by gas turbines.	Please correct as follows:  <b>LNG Trains:</b> Natural gas transported to the facility would be processed in LNG trains. Each train would consist of a feed gas receiving unit, pressure let down unit, gas treatment unit, gas dehydration unit, mercury removal unit, <i>heavies</i> removal unit, and liquefaction unit. The facility would contain up to three identical <i>6.84</i> million tonnes per annum liquefaction trains. Refrigeration compressors, for liquefaction, would be powered by <i>aero derivative</i> gas turbines.	Edits recommended based on best available information from Engineering.

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
2.3	Page 11, para. 1	<b>LNG Storage:</b> Up to three 180 000 m <sup>3</sup> full-containment <u>double wall</u> LNG storage tanks would be constructed for the facility.	Please correct as follows:  <b>LNG Storage:</b> Up to three 180 000 m <sup>3</sup> full-containment <del>double wall</del> LNG storage tanks would be constructed for the facility.	Minor edit – may not be “double wall” but will be “full containment”
2.3	Page 12, para. 3	<b>Non-Manufacturing Facilities:</b> Other Project components not related to manufacturing LNG include a Materials Offloading Facility, bridge and short access road from mainland to Lelu Island, administration and maintenance buildings, site fencing, site lighting, and habitat compensation measures.	Minor edit suggested:  <b>Non-Manufacturing Facilities:</b> Other Project components not related to manufacturing LNG include a Materials Offloading Facility, bridge and short access road <i>from the mainland</i> to Lelu Island, administration and maintenance buildings, site fencing, site lighting, and habitat compensation measures.	
2.3	Page 12, para. 3	The Project does not include pipeline transportation of natural gas from gas fields in <u>northwest</u> B.C., which would be provided by the Prince Rupert Gas Transmission	Please correct:  The Project does not include pipeline transportation of natural gas from gas fields in	

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
		Project, proposed by TransCanada Pipelines Ltd.	<i>northeast</i> B.C., which would be provided by the Prince Rupert Gas Transmission Project, proposed by TransCanada Pipelines Ltd.	
2.4	Page 13, 3 <sup>rd</sup> row	Construction, use and decommissioning of a <u>temporary</u> pioneer dock for initial offloading of construction equipment until Materials Offloading Facility is built.	Suggest Agency consider the following edit:  <i>Construction and use of a pioneer dock for offloading of construction equipment.</i>	The use of the pioneer dock will likely continue after MOF is built to support future construction of Train 3.  Not really temporary.
2.4	Page 13, 5 <sup>th</sup> row	Removal of sewage and grey water from the toilets by septic truck and barge. Discharge of waste waters appropriately into waste water treatment facilities on the mainland.  Management of solid, liquid and hazardous waste.  Collection and treatment of storm water runoff from plant areas subject to oil contamination. Remaining clean runoff water would be directed towards the	Suggest that the Agency consider a re-write as follows:  Removal of sanitary wastes and grey water from the toilets by septic truck and barge. Discharge of these types of waste waters appropriately into waste water treatment facilities on the mainland.  Management of solid, liquid and hazardous wastes.  Collection, containment and, as	Suggested more detailed edits for construction.

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
		drainage system collected by surface ditches for discharge to the ocean via pre- disturbance drainage pathways.	<p>necessary, transfer of contaminated storm water runoff from plant construction areas to licensed waste treatment facilities on the mainland.</p> <p>Uncontaminated clean runoff water would be directed to surface ditches and into the marine environment via pre-disturbance drainage pathways.</p>	
2.4	Page 14, 4 <sup>th</sup> row	<p>Management of solid, liquid and hazardous waste.</p> <p>Water management (storm water, effluent, sewage, and grey water). Utility pipelines from Port Edward would provide water and sewer services for the LNG facility and would be attached to the permanent road bridge from Lelu Island to the mainland.</p>	<p>Suggest that the Agency consider a re-write as follows:</p> <p>Management of solid, liquid and hazardous waste.</p> <p>During operations, industrial liquid wastes (e.g., grey water, liquid LNG Plant effluents, etc.) from the LNG Plant will be treated on site at the Waste Water Treatment Plant (WWTP) to achieve the discharge requirements required under the Port Edward Sewer System Bylaw No. 376.</p> <p>The storm water runoff from LNG plant areas that are subject to oil contamination (e.g., accidentally</p>	Suggested more detailed edits for Operations.

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
			<p>oil contaminated (AOC) water) will be collected in sumps and later pumped to the onsite wastewater treatment plant (WWTP) for pre-treatment and finally piped to the Port Edward WWTP for further treatment and finally discharged to the marine environment via the Port Edward WWTP outfall.</p> <p>Oily sludge from the onsite WWTP will be pumped to the sludge storage tank and periodically taken to offsite licensed disposal facility. The LNG plant’s domestic sewer/ effluents will be collected via sewage lift stations and piped directly to the Port Edward WWTP.</p> <p>LNG Plant site stormwater runoff that is safe for discharge into the marine environment (i.e. entirely oil free water ) from building areas, roadways and non-process areas would be directed via the drainage system into the Stormwater Observation Basin and, after testing, eventually discharged into the marine</p>	



Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
			environment if the quality of the water complies with approved Water Quality Guidelines.	
Sec. 3.2	Page 16, 3rd para.	Three main refrigerant compressor drivers were considered:	Three main <i>types</i> of refrigerant compressor drivers were considered:	Minor edit
Sec. 3.2	Page 16, 3rd para.	Onsite power generation from <u>aero-derivative</u> gas turbines was selected as the preferred option by the proponent because it eliminates the risks of power reliability that a transmission line would introduce.	Suggest the following edit:  <i>Onsite power generation from gas turbines was selected as the preferred option by the proponent because it eliminates the risks of power reliability that a transmission line could introduce.</i>	Minor edit – several types of gas turbines were evaluated, not just aero-derivative
3.2	Page 16, 4 <sup>th</sup> para.	<i>Source of Electrical Power</i> Using electrical power from BC Hydro was not considered feasible due to the lack of available electricity to supply the plant in the Project’s timeline sources are more mature and electricity is made available, to lower greenhouse gas emissions	Suggest the Agency consider the following extensive edit:  <i>The key feasibility criterion for non-compression power supply selection was availability and certainty of supply from commissioning stages in originally forecast to be from 2017 onwards with a firm, negotiated commitment for external energy</i>	Correspondence is on file with B.C. with respect to the suggested text left which is almost a direct quote from the letter to the BC EAO dated Aug. 11, 2014.  This provides additional clarity to why PNWLNG did not continue pursuing a negotiated commitment to secure electrical power form BC Hydro in 2013.

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
		as much as possible.	<p><i>supply to be agreed to with BC Hydro by mid-2013.</i></p> <p><i>PNW LNG did not believe it could complete a firm, negotiated commitment of 500 MW (including a requirement for redundancy) from BC Hydro within PNW LNG’s optimal development timeframe, and consequently the option of importing power for non-compression electricity requirements from BC Hydro was not considered further.</i></p> <p><i>Further, BC Hydro advise that it likely would need to provide a source of electrical energy to provide for that much power and that source was likely electrical energy from a natural gas powered electrical thermal energy facility in the Prince Rupert area in combination with supply from the main electrical grid.</i></p>	

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
			<p><i>To meet its optimal and aggressive schedule, PNW LNG needed to firm up the Basis of Design for the LNG Plant, including power options, to advance aggressively to the Front End Engineering and Design (FEED) Phase in May 2013.</i></p> <p><i>PNW LNG believed there would be minimal environmental benefits to using power from BC Hydro compared to PNW supplied power. Depending on the mix of grid and thermal power, the emissions could be similar and there would be additional environmental costs (e.g., to vegetation and wildlife) from the footprint of the required power supply plant and transmission lines.</i></p>	
Sec. 4.1.2	Page 22, para. 1	.....Assessment Office through meetings and letter and email correspondence	Suggest the following edit:  ....Assessment Office through meetings, <i>workshops</i> and letter	More accurate description of engagement activities; a number of workshops were convened with Aboriginal groups

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
--------------------------------	-----------------------------	--------------------------	--------------------------------------	------------------------------

			and email correspondence	
Sec. 4.1.2	Page 22, para. 1	Meetings included presentations and discussions on....	Suggest the following edit:  <i>Meetings and workshops included presentations and discussions on.....</i>	More accurate description of engagement activities
Sec. 4.1.2	Page 23, para. 2	The proponent received traditional use studies from Metlakatla First Nation, Gitxaala Nation, Kitselas First Nation, and Kitsumkalum First Nation, and an interim traditional use study report from Gitga’at First Nation.	Suggest adding another sentence to the following additional statement:  The proponent received traditional use studies from Metlakatla First Nation, Gitxaala Nation, Kitselas First Nation, and Kitsumkalum First Nation, and an interim traditional use study report from Gitga’at First Nation. <i>The proponent received socio economic impact assessments from Metlakatla First Nation, Gitxaala Nation, Kitselas First Nation, and Kitsumkalum First Nation.</i>	More accurate description of information received.
Sec 4.2.2	Page 24, last para.	<i>Public Participation Activities by the Proponent</i> The proponent conducted six open houses in Prince Rupert	Suggest the Agency consider correcting the text below as noted in italics:	Correction to one entry and added some new information

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
--------------------------------	-----------------------------	--------------------------	--------------------------------------	------------------------------

		<p>and Port Edward prior to EIS submission. About 300 members of the public participated in these events. The proponent also conducted over 50 meetings with local businesses, environmental, and community groups. A series of four roundtable discussions for local marine users were held to address navigation and marine use issues. Following submission of the EIS, the proponent participated in two open houses, in April 2014, during the public comment period. In October 2014, <u>the proponent conducted two additional information sessions in Prince Rupert and Port Edward</u> to provide information on the Project design change. The proponent collected the views of the public regarding the design change. These views</p>	<p><i>Public Participation Activities by the Proponent</i></p> <p>The proponent conducted six open houses in Prince Rupert and Port Edward prior to EIS submission. About 300 members of the public participated in these events. The proponent also conducted over 50 meetings with local businesses, environmental, and community groups. A series of four roundtable discussions for local marine users were held to address navigation and marine use issues. Following submission of the EIS, the proponent participated in two open houses, in April 2014, during the public comment period. <i>In October 2014, the proponent conducted an additional information session</i></p>	
--	--	---	--	--

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
		<p>included concerns about the potential effects of the proposed bridge, including effects on navigation, ambient light, visual quality, and marine resources. Many members of the public were also supportive of the design change.</p>	<p><i>in Prince Rupert to provide information on the Project design change. The proponent collected the views of the public regarding the design change. These views included concerns about the potential effects of the proposed bridge, including effects on navigation, ambient light, visual quality, and marine resources. Many members of the public were also supportive of the design change. In January 2015 the proponent held another series of open houses in Port Edward, Prince Rupert and Terrace to provide additional information about the design changes. Approximately 284 members of the public participated in these open houses. In October 2015 the</i></p>	

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
			<i>proponent held an information session in Prince Rupert to provide details about the investigative work occurring in the marine environment around the proposed site.</i>	
Sec. 5.1	Page 27, para 1.	Dominant vegetation includes moderately productive forests (western red cedar and western hemlock) and forested and shrubby blanket bogs (western red cedar, yellow-cedar, western hemlock, and shore pine)	Suggest the following edit:  Dominant vegetation includes moderately productive forests (western red cedar and western hemlock) <i>and open woodland or shrub-dominated bogs mostly dominated by dwarfed shore pine and yellow-cedar.</i>	Correct characterization of dominant species.
Sec. 5.1	Page 27, para 2.	Nine terrestrial species listed under the <i>Species at Risk Act</i> and three terrestrial species designated by the Committee on the Status of Endangered Wildlife in Canada potentially occur in the vicinity of Lelu Island.	Suggest the following edit:  <i>Fifteen terrestrial species listed under the Species at Risk Act (all schedules) and one terrestrial species designated by the Committee on the Status of Endangered Wildlife in Canada potentially occur in the vicinity of Lelu Island.</i>	Correction to the number of SARA- and COSEWIC-listed terrestrial species, and clarification of the SARA listing

Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
Sec. 5.1	Page 28, para 1.	Thirteen marine species (fish, invertebrates, and marine mammals) listed under the <i>Species at Risk Act</i> and six species designated by the Committee on the Status of Endangered Wildlife in Canada potentially occur in the vicinity of the Project.	Suggest the following edit:  Thirteen marine species (fish, invertebrates, and marine mammals) listed under the <i>Species at Risk Act</i> (all schedules) and seven species designated by the Committee on the Status of Endangered Wildlife in Canada potentially occur in the vicinity of the Project.	Correction to the number of COSEWIC-listed marine species, and clarification of the SARA listing
Sec. 5.1	Page 28, para 2.	Prince Rupert experiences an average temperature of 11.8 to 12.7°C (average 1.0°C in December and 13.5°C in August).	Suggest the following edit:  <i>Prince Rupert experiences an average temperature of 11.8 to 12.7°C in the summer, and 2.2°C to 3.3°C in the winter (average 1.0°C in December and 13.5°C in August).</i>	Correction and clarification of average temperature ranges.
5	5.1, Page 28, para. 2	Winds recorded at the Prince Rupert airport (7 km west of Prince Rupert) are predominantly southeasterly, averaging 3.5 m/s, and winds recorded at the Holland Rock station (5 km northwest of Lelu Island) are similar to winds at the airport but stronger,	Suggest sentence be corrected.  <i>Calm winds occur about 1.1 percent of the time on Holland Rock, as opposed to 5.3 percent at the Prince Rupert airport.</i>	Need to add the word “calm” at the beginning of this sentence as it is not accurate as written.



Sections Exec Sum, 1 - 5	Page Number Paragraph	CEAA Original Draft Text	PNWLNG Suggested New Text or edit	PNW LNG Concern or Rationale
		averaging 5.8 m/s.  Winds occur about 1.1 percent of the time on Holland Rock, as opposed to 5.3 percent at the Prince Rupert airport.		