SCHEDULE A

CERTIFIED PROJECT DESCRIPTION

FOR THE

KSI LISIMS LNG – NATURAL GAS LIQUEFACTION AND MARINE TERMINAL

(PROJECT)

ENVIRONMENTAL ASSESSMENT CERTIFICATE # E25-01

INTERPRETATION

In this Certified Project Description, terms that are capitalized but not defined have the same meaning as those terms defined elsewhere in this Certificate, including in the Table of Conditions.

This Certified Project Description describes the Project authorized by this Certificate but does not obligate the Holder to construct or operate any aspect of the Project unless otherwise stated.

ACRONYMS

B.C. British Columbia

Certificate Environmental Assessment Certificate
EAO Environmental Assessment Office

FLNG Floating Liquified Natural Gas production, storage and offloading

facility

ha Hectares km Kilometre

LNG Liquified Natural Gas

m³ Cubic metre

NAD83 North American Datum 1983

NGL Natural Gas Liquids

Nisga'a Treaty Nisga'a Final Agreement

UTM Universal Transverse Mercator

1. Project Description and Location

- 1.1 The Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal (Project) is a floating natural gas liquefaction production, storage and offloading facility (FLNG) and marine terminal, located at Wil Milit on the northwest coast of British Columbia (B.C.) at the northern end of Pearse Island.
- 1.2 The Project is centred at UTM Zone9N, 424248 E, 6098080 N (NAD83), approximately 15 kilometres (km) west of the Nisga'a community of Gingolx, which is the closest community (Figure 1).
- 1.3 The Project terrestrial components will be located on Category A Land (District Lots 5431 and 7235) owned in fee simple by the Nisga'a Nation and located within the Nass Area, as defined in the Nisga'a Final Agreement (Nisga'a Treaty) and the marine components will be located on an adjacent proposed Water Lot located on Portland Canal at the northern point of Pearse Island (Figure 2 Conceptual Project Layout).
- 1.4 The Project's terrestrial footprint will be a maximum of 43.6 hectares (ha) and the marine footprint will be a maximum of 19 ha.
- 1.5 The Project components consist of:
 - a) The facility area (which contains up to two FLNGs, the marine terminal and supporting infrastructure) (Figure 2). The combined capacity of the two FLNGs can receive up to 2 billion cubic feet per day of pipeline grade natural gas and export no more than 22.4 billion cubic metres (m³) per year of natural gas, including a 15% annual tolerance; and
 - b) Shipping of Liquified Natural Gas (LNG) and Natural Gas Liquids (NGL) from the Project's marine terminal transiting through Dixon Entrance north of Haida Gwaii to the 12 nautical mile limit of Canada's territorial sea, excluding transiting south through Hecate Strait.

2. Construction Project Components and Activities

- 2.1 The Project will include the following supporting infrastructure and transportation facilities during Construction.
- 2.2 Temporary components within the terrestrial footprint and marine footprint and water lot to support onsite Construction will include:
 - a) Dock(s):
 - b) Site access roads (including watercourse crossings);
 - c) Diesel power generation;
 - d) Utilities, including water, power, gas, and sewage;
 - e) Drainage and discharge systems;
 - f) Construction offices;
 - g) Onsite concrete batching plant(s);
 - h) Fuel storage areas;
 - i) Potential surface water stream diversion structure(s) and pumping equipment;

- j) Floating hotel(s) used to house a Construction workforce, including contractors, of up to 800 Workers total; and
- k) Marine anchorage(s) for positioning of temporary construction and supply barges.

2.3 Construction activities will include:

- a) Onsite site preparation, construction, commissioning and start-up of the marine terminal and supporting infrastructure (Sections 3.5 and 3.6);
- b) Connection, start-up and commissioning of the FLNG facilities, constructed outside Canada and then transported to the marine terminal (Section 3.4);
- Transportation of construction materials, equipment, and supplies via truck or other vehicles from Terrace to Gingolx or Prince Rupert/Port Edward and then barged to the Project Site; and
- d) Transportation of personnel via bus or other vehicles from regional hubs in Terrace to Gingolx or Prince Rupert/Port Edward and then via vessel to the Project site.

3. Operations Project Components and Activities

- 3.1 The Project will operate up to two FLNGs and a marine terminal for mooring the FLNGs, LNG carriers and NGL vessels that support marine shipping activities. The Project will include supporting infrastructure and transportation facilities during Operations.
- 3.2 The Operations phase of the Project will be up to a maximum of 40 years.
- 3.3 Operations activities include:
 - a) A maximum full-time equivalent number of Workers at the Project site of up to 250 persons;
 - b) Up to 150 additional Workers may also be on site at a time on a temporary basis (once every three to five years) to perform scheduled shutdown and maintenance work:
 - c) Receipt, pre-treatment, and liquefaction of natural gas from the feed gas pipeline;
 - d) Incineration of acid gas (carbon dioxide and hydrogen sulphide) that is removed from the feed gas;
 - e) Storage of natural gas liquids (NGL) that are removed from the feed gas;
 - f) Boil off gas management and re-liquefaction;
 - g) Liquefaction of natural gas and storage of the LNG;
 - h) Berthing of up to 160 LNG carriers per year and up to 12 NGL vessels per year at the FLNGs with tug assistance;
 - i) Offloading of LNG and NGL to product carriers;
 - Receipt of electrical power from a transmission line and distribution of power throughout the facility;
 - k) Electrical power generation for the Project on the temporary power barges;
 - Seawater desalination and rainwater collection, treatment, use and discharge / disposal to the marine environment;
 - m) Sanitary and process wastewater treatment and discharge / disposal to the marine environment;
 - n) Stormwater discharge to the marine environment;

- o) Waste disposal and recycling;
- p) Transportation and storage of products, materials, and equipment required for operations and maintenance; and
- q) Maintenance and inspection of the Project components and facilities.

FLNG Facilities

- 3.4 The FLNGs will each include the following components within the marine footprint and water lot:
 - a) Feed gas pre-treatment systems;
 - b) Processing and storage systems;
 - c) LNG storage tanks with a storage capacity of up to 245,000 m³ on each FLNG (up to 490,000 m³ total) and the associated LNG transfer pumps;
 - d) FLNG mooring systems;
 - e) LNG ship-to-ship off-loading equipment incorporating loading arms with a total maximum LNG transfer capacity of 12,000 m³/hour per FLNG;
 - f) NGL ship-to-ship off-loading equipment incorporating loading hose(s) with a total maximum NGL transfer capacity of up to 500 m³/hour per FLNG;
 - g) Boil off gas management systems;
 - h) Flaring systems; and
 - i) Utilities required for the FLNG operation including:
 - i. Electric power distribution;
 - ii. Refrigerant storage;
 - iii. Fire and gas detection equipment;
 - iv. Automated control and safety systems;
 - v. Firewater pumps; and
 - vi. Emergency egress facilities.

Marine Terminal

- 3.5 The marine terminal includes the infrastructure and components required for mooring the FLNGs and Project vessels, which includes:
 - a) Up to two pile supported jetties and platforms, each connecting one FLNG to the shore;
 - b) Material off-loading facility; and
 - c) Supply/personnel jetty.

Supporting infrastructure

- 3.6 Supporting infrastructure components include the following:
 - a) Terrestrial closed-loop water cooling systems to support FLNG and temporary power barge processes including piping, equipment and supportive structure(s);
 - b) Natural gas receiving station and distribution piping, with fiscal metering and a pipeline inspection gauge receiver:
 - c) Electrical substation(s) and Project site electricity distribution systems;
 - d) Marine water intake for desalination;
 - e) Water desalination system, potable water treatment, and a wastewater treatment plant;
 - f) Firewater storage, distribution and protection equipment;

- g) Emergency diesel power generation equipment with diesel fuel tanks;
- h) Treated effluent pipeline, outfall and diffuser in Portland Canal;
- i) Access roads (including watercourse crossings), security fencing and lighting;
- j) Project buildings, which include an administrative building, first aid room(s), maintenance workshop and warehouse, security office, and control building;
- k) Workforce accommodation building with a maximum capacity of 400 Workers;
- I) Solid waste management facilities;
- m) Helipad; and
- n) Overburden storage areas.

Transportation

- 3.7 During Operations, the Project will include the transportation facilities and activities including:
 - a) Transporting personnel via bus or other vehicles from regional hubs in Terrace to Gingolx or Prince Rupert/Port Edward and then via vessel to the Project site, and
 - b) Transporting supplies via truck, barge, or other vehicles to the Project site.

Marine Shipping

- 3.8 Shipping LNG and NGL products on dedicated LNG carriers and NGL vessels including the use of other supporting marine traffic, including tugboats, will transit between the marine terminal transiting through Dixon Entrance north of Haida Gwaii to the 12 nautical mile limit of Canada's territorial sea excluding transiting south through Hecate Strait.
- 3.9 Tugboats and supply barges will also transit from Prince Rupert / Port Edward to the Project site.

Power Barges

- 3.10 The Project may use temporary floating power barges that will be berthed alongside the material off-loading facility to supply the Project with electricity, generated by gas, prior to electricity at the required capacity being supplied by BC Hydro through transmission infrastructure.
- 3.11 Temporary floating power barges must be removed from the Project site after they have been shut down and are no longer required to provide electricity to the Project.

4. Decommissioning Project Components and Activities

- 4.1 Decommissioning activities include:
 - a) Removal of the two FLNG facilities;
 - b) Removal of infrastructure and facilities, where they will not serve a future use;
 - c) Restoration activities; and
 - d) Shipping of materials or Project components (including the FLNGs), for re-use elsewhere or for scrapping/recycling at a dedicated facility.

5. List of Figures

Project Overview of Ksi Lisims LNG - Map 1 (Figure 1)

Conceptual Project Layout of Ksi Lisims LNG - Map 2 (Figure 2)

