At Issue

Steelhead LNG is proposing to build an LNG terminal that could see up to 24 LNG carriers moving in and out of Sarita Bay every month. The arrival, anchoring, berthing, loading, and departure of large marine vessels pose risks to local environmental health and safety that are of concern to Huu-ay-aht First Nations.

How is LNG shipped?

Liquefied natural gas is transported in specially designed, doubled-hulled LNG carriers that are up to 300 metres long and carry five or more insulated, double-walled storage tanks. LNG carriers are loaded and unloaded through insulated pipes, and they usually take one day to fill before they head out of port.

What happens if there’s an accident during shipping?

Concerns about LNG shipping safety include collisions with other vessels, grounding, and accidents at the terminal. While the potential for fuel spills is real, the accidental loss of cargo (spill) is not an important environmental concern. LNG is an extremely cold, non-toxic liquid that, unlike crude oil or bitumen, poses a low environmental risk in the event of a shipping accident. In the unlikely event of a spill, it dissipates into the air quickly without leaving any residue on soil or water.
How will shipping risks and safety concerns be addressed?

The Environmental Management Framework agreed to by Huu-ay-aht and Steelhead LNG will ensure that world-leading facility/vessel casualty and spill planning, preparedness, and response measures are in place.

In addition, strong Canadian and international regulations govern LNG carriers to ensure that the LNG shipping industry operates safely.

The Environmental Management Framework requires a TERMPOL² Review Process (TRP) for the proposed Sarita LNG project.

The TRP is intended to ensure marine safety by examining factors that threaten the integrity of a vessel’s hull and its cargo containment system while in Canadian waters. The TRP also applies the same considerations to cargo transfer operations at the terminal.

The TRP examines specific safety risks in depth and recommends mitigation measures regarding:

- Vessel design and safety
- Marine traffic patterns
- Shipping routes, navigability, communications
- Ship clearance (ensuring water depths will prevent grounding at all tide levels)
- LNG terminal design and vessel berthing
- LNG transfer to vessels
- Vessel maneuvering and anchorages
- General risk analysis and preventative measures (e.g. roles of marine pilots and escort tugs)
- Risk analysis of accidents and malfunctions
- Contingency planning and emergency response (e.g. requirements for rescue [salvage] tugs and spill response)

² TERMPOL stands for: Technical Review Process of Marine Terminal Systems and Transshipment Sites

A leak from an LNG facility or an LNG carrier is very unlikely. However, if there were to be an accident or malfunction resulting in the release of LNG, the automatic LNG leak detection systems would alert the crew immediately. Once the LNG comes in contact with the air, it would start to return to its natural gaseous state. Since natural gas is less dense than air, it would rise and dissipate into the atmosphere.

How can we ensure safety of shipping operations?

Though not all maritime accidents can be prevented, a properly conducted TRP with recommendations that are implemented appropriately can strengthen efforts to ensure (i) environmental risks and threats to safety are acceptable, and that (ii) accident response is meaningful and effective.

World-leading safety and environmental measures that are being considered for Sarita LNG to minimize the risk of accidents include:

- B.C. Pilots guiding the carriers between the Cape Beale Pilot Station and Sarita Bay
- Tugs to guide carriers and provide rescue/salvage capability for carriers entering and exiting Sarita Bay
- Safety/exclusion zones around carriers and the terminal during operations
- Marine Response Plan • Vessel rescue and salvage
- Marine Mammal Mitigation Plan
- Other world-leading measures to be identified and considered

RESOURCE: ClearSeas is an independent, not-for-profit organization that provides impartial and evidence-based research about marine shipping in Canada. www.clearseas.org