

Graham Parkinson
634 East 4th Street
North Vancouver, BC

February 8, 2024

Subject: FortisBC Energy Inc. Responses to Comments Regarding the Waste Discharge Permit Application for the Tunnel Component of the Eagle Mountain-Woodfibre Gas Pipeline Project

Dear Mr. Parkinson,

In response to your email dated December 30, 2023, and the letter dated January 5, 2024, with comments on the proposed water discharge activities for the Eagle Mountain-Woodfibre Gas Pipeline Project, FortisBC Energy Inc. provides the following responses. Please note, the responses focus on key points provided in your correspondence.

FortisBC commenced the permitting process for the Waste Discharge Permit Application in October 2019. Through the consultation associated with this permitting process, FortisBC received feedback from the BC Energy Regulator, Squamish Nation, other applicable regulators, and the public. Please note the following:

- Based on feedback received, sampling and monitoring requirements are anticipated to be more rigorous than proposed in the initial application.
- Cumulative discharge and impacts by Woodfibre LNG and/or the District of Squamish's proposed upgrade of the Wastewater Treatment Plant are outside of the scope of FortisBC's Waste Discharge Permit Application.

Thank you again for your comments and please feel free to contact me should you require additional information or clarification.

Regards,



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1. There are no detailed designs for the Water Treatment Plants (WTPs) or for site water management. Designs to be circulated publicly for comment before final permits.

FortisBC's tunnel contractor has engaged Aqua Solve and the appropriate qualified professionals to verify and deliver WTPs that will meet the Project's discharge requirements. While these systems use treatment processes that are common and typical in the industry, Aqua Solve's system include proprietary designs and therefore cannot be made public. The Project relies on the BCER and its subject matter experts to provide technical reviews to ensure relevant concerns are addressed or mitigated. The WTPs are constructed using individual treatment modules based on the site-specific treatment requirements.

The performance of the treatment systems will be verified during the commissioning process of the WTPs, which will include holding and sampling the initial test batch prior to any discharge. Water that cannot be treated will be disposed off-site at approved facilities.

2. Commitment to treat all effluent to BCWQG and to an acceptable level of demonstrated non-toxicity to fish (i.e. LC50 testing since industrial sites have many unknown contaminants that can be harmful to aquatic life and may not be tested for in standard suites of analytical testing to meet BCWQG)

Through extensive consultation with project stakeholders and Squamish Nation, as well as in discussions with subject matter experts from the BCER, the BCER has provided sampling and monitoring requirements for the WDA that are more stringent than originally proposed. These requirements include testing for a wider range of water quality parameters, higher sampling frequencies, and inclusion of weekly LC50 testing. FortisBC believes that the stated concerns are addressed by these requirements.

3. What redundancy will be provided in the WTP designs? What timeline will be involved if additional treatment is found to be required – will work stop while additional WTP capabilities are constructed if contaminants of concern remain in effluent?

Several redundancies are incorporated in the WTP designs including:

- WTP design capacity is approximately double of the anticipated discharge rate
- Spare pumps are available
- Spare set of sand pods are plumbed in and just isolated with valves
- Backup power generator
- Ability to recirculate the water back through the plant for additional treatment

At BC Rail Site, the following are also incorporated in the WTP with redundancy:

- 2 sets of ion exchange vessels
- 2 sets of filter bag pods

Furthermore, influent to the plant can be adjusted (reduced) to allow for additional treatment time for the water being treated. Real-time and daily sampling of in-situ water quality parameters will ensure that the WTP operators can implement adjustments or shut-off the discharge without delay. Discharge to the environment will be halted if the water treatment is not meeting the requirements of BC Water Quality Guidelines.

4. The WFLNG water management plan has no surge pond included. Surge ponds are also required to deal with the unfortunate but predictable outages that always occur with treatment plants (blocked filters, power failures, pipe breaks etc.). There is no contingency plan or detailed design showing redundant treatment circuits or 24/7 onsite monitoring of WTP performance.

Hydrogeological assessment of the water inflow was completed by the Project, which also considered details from historical case studies from nearby tunnels in similar ground conditions. The estimated inflow rate is considered accurate over a relatively large range. FEI is confident that the WTPs' capacities are appropriately sized.

Furthermore, due to the aforementioned redundancies incorporated in the WTP designs, as well as operational approaches described, surge ponds are not considered to be required for the construction of EGP Tunnel.

5. Contingency plans for disposal of PAG if more PAG waste is present than can be disposed of underground.

Excessive PAG rock will be transported and disposed off-site at approved facilities if required. The Project is committed to ensuring no long-term ARD results after completing construction.

6. Proponent to present Environmental Protection Plans (application references these will be done before construction), these are needed to be required to be developed in detail and available for public comment before award of final permits.

As part of FortisBC's Environmental Assessment Certificate (EAC), FortisBC has developed Condition Management Plans (CMPs) that outline environmental mitigation measures that will reduce or avoid impacts to the environment. The Condition Management Plans were developed in consultation with various stakeholders, Indigenous groups and the BC Energy Regulator (BCER). The CMPs are publicly available on the Environmental Assessment Office (EAO's) EPIC website.

7. Salt water incursion is expected. There is no discussion of the potential impacts of discharging salt water into a freshwater stream. I am not sure that this is allowed. The water treatment plant will not be designed to desalinate inflow water which would require reverse osmosis desalination.

To manage potential saltwater intrusion, the salinity of seepage water into the tunnel sections that are below sea level will be continuously monitored. In the Bedrock Tunnel, steps will be taken to grout sections where inflow of brackish or saline water is salinity monitoring is observed, in order to reduce or eliminate saltwater incursion.

In the Soft Ground Tunnel, the precast concrete liners are gasketed, and the exterior annular space will be grouted. The seepage of any water is anticipated to be negligible.

8. The application documents contain links to these figures, which are behind the Fortis log-in firewall and thus inaccessible to the public.

Figure 7 Environmental Constraints Along the Hard Rock Tunnel Study Area

Figure 8 Hard Rock Tunnel Alignment with Stream Catchments and Lineaments of Concern

We apologize for the formatting error. Please find the requested drawings attached.

- Figure 7. Environmental Constraints along The Hard Rock Tunnel Study Area.pdf
- Figure 8. Hard Rock Tunnel Alignment with Stream Catchments and Lineaments of Concern.pdf