Indigenous and Northern Affairs Canada | Affaires autochtones et du Nord Canada

Your file - Votre référence
8BC-GJO----

January 4, 2016

Our file - Notre référence
IQALUIT-#1012569

Licensing Department
Nunavut Water Board
GJOA HAVEN, NU X0E 1J0

Sent via email: licensing@nwb-oen.ca

To Whom It May Concern,

Re: Technical Review of New Type 'B' Water Licence Application, No. 8BC-GJO----

Thank you for the December 4, 2015 email notice of the above mentioned water licence application. A memorandum is provided for the Nunavut Water Board's consideration. Comments and recommendations have been provided pursuant to Indigenous and Northern Affairs Canada's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

Please do not hesitate to contact me by telephone at 867-975-4555 or email at David.Abernethy@aandc-aadnc.gc.ca for further information.

Sincerely,

David Abernethy

Regional Coordinator
Water Resources Division
Resource Management Directorate
Indigenous and Northern Affairs Canada
IQALUIT, NU X0A 0H0

Encl.

Cc. Shawn Stuckey, Hamlet of Gjoa Haven
Jivko Jivkov, Jivko Engineering Ltd.

Canada

Memorandum

To: Licensing Department, Nunavut Water Board

From: David Abernethy, Regional Coordinator, Indigenous and Northern Affairs Canada
Amjad Tariq, Regulatory and Science Advisor, Indigenous and Northern Affairs Canada

Cc: Shawn Stuckey, Hamlet of Gjoa Haven
Jivko Jivkov, Jivko Engineering Ltd.

Date: January 4, 2016

Re: New Type B Water Licence Application, No. 8BC-GJO----

Applicant: Hamlet of Gjoa Haven
Project: Swan Lake River Bridge
Region: Kitikmeot

Comments:

A. Background

On December 4, 2015, the Nunavut Water Board (NWB) invited interested parties to review the Hamlet of Gjoa Haven's (the proponent) application for a type 'B' water licence for water use and/or waste disposal associated with the construction of the Swan Lake River Bridge. The proponent has requested a one year licence term.

Interested parties were asked to provide comments by January 4, 2016.

B. Results of review

On behalf of Indigenous and Northern Affairs Canada (INAC) the following comments and recommendations are provided:

1. Construction of Bridge Abutments Below the Ordinary High Water Mark

According to the submitted July 9, 2015 Non-Technical Project Description, the proposed bridge will be a 27 m long steel structure with a 4.5 m wide timber deck. The abutments will be steel boxes in-filled with a mixture of gravel and cement. Armour rock will be placed around the abutments to prevent washout and ice damage.

Section 2 of the June 24, 2015 Project Brief states, “in summer and fall the watercourse at the proposed location is between 12 m and 15 m wide and less than 0.3 m deep….. At high water levels during the spring thaw the river runs 35 m to 40 m wide and 1.0 m deep.”

The September 20, 2010 Department of Fisheries and Oceans (DFO) email correspondence included with the application makes reference to the bridge abutment locations being below the river’s high water mark. The Department of Fisheries and Oceans allowed the proponent to follow the DFO *Clear-Span Bridges Nunavut Operational Statement* (*Version 3.0)* despite not adhering to the requirement for the bridge to be placed entirely above the ordinary high water mark. The proponent was asked to design future clear-span bridges above the ordinary high water mark of creeks and rivers (where possible).

Recommendations

The proponent should explain why its bridge is not designed to be placed entirely above the ordinary high water mark of the Swan Lake River in accordance with the DFO *Clear-Span Bridges Nunavut Operational Statement*.

The proponent should confirm whether it is possible to revise its bridge design to allow for it to be placed entirely above the ordinary high water mark of the Swan Lake River.

The proponent should identify potential impacts to the Swan Lake River as a result of constructing the bridge below its ordinary high water mark (e.g., erosion, sedimentation, loss of fish habitat, or alteration of natural channel processes.

2. Preventing the Introduction of Deleterious Substances to Swan Lake River

The Department of Fisheries and Ocean’s Canada’s *Clear-Span Bridges Nunavut Operational Statement (Version 3.0)* states that, “Stormwater run-off and the use of machinery can introduce deleterious substances to the water body and result in erosion and sedimentation.” According to the statement’s Measures to Protect Fish and Fish Habitat when Constructing Clear-Span Bridges, “bridges should be designed so that stormwater runoff from the bridge deck, side slopes and approaches is directed into a retention pond or vegetated area to remove suspended solids, dissipate velocity and prevent sediment and other deleterious substances from entering the watercourse (Measure No. 4).” Stormwater runoff from the proposed bridge may contain deleterious substances. The Swan Lake River’s water quality would be impacted if runoff is directed toward it.

Recommendation

The proponent should provide details on what management practices will be implemented to prevent the introduction of deleterious substances into the Swan Lake River from stormwater run-off and the use of machinery.

3. Water Quality Degradation from River Crossings

Block 18 of the submitted General Water Licence Application states, “Related to construction of the south abutment an excavator and loader will cross the river a total of 8 to 10 times. Pickup trucks moving construction crew will cross the river another 12 to 15 times. This will result in an average of two crossings per day for the total period of the bridge construction.”

The movement of machinery and equipment across the Swan Lake River will result in erosion and sedimentation as well as the introduction of deleterious substances into the river.

Recommendation

The proponent should provide details on what mitigation/control measures will be implemented to prevent degradation of Swan Lake River water quality as a result of machinery and equipment crossing the river during bridge construction.

4. Spill Contingency Plan

The proponent provided spill contingency response information to the NWB in correspondence dated September 11, 2015 and September 24, 2015. This information was provided to conform with the Government of Nunavut’s *Spill Contingency Planning and Reporting Regulations*. Item 9 (j) of the September 24, 2015 letter from Jivko Engineering Ltd. (proponent’s representative) to the NWB states that “Although holding extensive experience in operating and maintaining heavy construction equipment and fully knowledgeable in spill response procedures the CAP Management did not have a formal Spill Contingency Plan. The current plan is presently being prepared by Jivko Engineering Ltd. with continuous input from the CAP Management.

Recommendation

The proponent should provide a stand-alone Spill Contingency Plan to the NWB that satisfies the Government of Nunavut’s *Spill Contingency Planning and Reporting Regulations*. This plan should be made available to project personnel. INAC’s 2007 *Guidelines for Spill Contingency Planning* and plans developed by other licensees should be reviewed when preparing this plan.