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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: 1BR-IIA----

September 16, 2014

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BY EMAIL: JStevens@gov.nu.ca

Subject: Water Licence Application for the Iqaluit International Airport Improvement Project

Dear Mr. Stevens,

I write in response to your September 5, 2014 letter to provide further clarifications with respect to a number of outstanding issues related to the water licensing process for the Iqaluit International Airport Improvement Project (IIAIP or Project).

A. File History

i. Type WL

On or about August 12, 2014, the Nunavut Water Board ("NWB" or "Board") received an application for an *Approval of the Use of Water or Deposit of Waste Without a Licence* from Mr. Michel Boulianne on behalf of Bouygues-Sintra Joint-Venture ("Type WL Application"). The Type WL Application was for the Iqaluit International Airport Improvement Project (IIAIP) and covered a specific scope of activities:

- "Temporary diversion of the Carney Creek and installation of an arch-culvert on +/- 250 meters and permanent realignment of the Carney Creek on +/- 450 meters upstream from the culvert. This last redirection will be done in proximity of the original path at +/- 15 meters."

The following description of project was provided to the Board:

- "A culvert of 250 meter will be installed at the level of the existing ditch and it will be buried between 1.2 and 2.2 meters under the future airport terminal building (ATB) parking lot. During this installation, a temporary realignment will be done to divert the ditch's water. This realignment will be done approximately 15 meters parallel to the running ditch."
- "The 450 meters long realignment of the running ditch will be done directly upstream of this culvert 10 meters (on average) parallel to the original ditch, following the new road that will be built (North commercial road)."

ii. Type B

On or about August 19, 2014, the Nunavut Water Board received an *Application for Water Licence* ("Type B Application") from Bouygues-Sintra Joint-Venture for the Iqaluit International Airport Improvement Project (IIAIP or Project). The following documents were included within the Type B Application:

- Expert Opinion Chromium Qikiqtaaluk Environmental, dated July 2, 2014;
- Financial Statement Sintra Inc. dated 31 December 2013;
- PHASE III ADDENDUM, Qikiqtaaluk Environmental, dated July 16, 2014;
- PHASE III ESA Final Report, Qikiqtaaluk Environmental, dated June 26, 2014;
- Pre-Existing Environmental Contamination Assessment and Mitigation Plan;
- Pre-Existing Environmental Contamination Management Plan, Conestoga-Rovers & Associates, dated January 2014;
- REQUEST FOR EXEMPTION;
- Soil and Groundwater Management Plan, Conestoga-Rovers & Associates, dated August 14, 2014;
- Executive Summary Inuktitut dated August 15, 2014;
- Executive Summary English dated August 15, 2014;
- Tier 3 Risk-Based Approach Criteria, Conestoga-Rovers & Associates, dated June 4, 2014; and
- Financial Statement Bouygues Building Canada Inc. 2013.

The Type B Application was with respect to the management/remediation of Petroleum Hydrocarbon (PHC) and metal contaminated soils discovered in Iqaluit Airport area. In it, the "Tier 3 risk-based approach" is proposed for the management of contaminated soils. For these activities, the "Tier 3 risk-based approach" for remediation was described more precisely as consisting of the following:

> "[C]ontaining and monitoring the contaminants such as Arsenic (258m^3), PHC (4950m^3) and Chromium (7214 - future Taxiway G & Apron 1 Expansion; 16,000 - future ATB and CSB Building Area) impacted soils, under one (1) meter of clean soil or aggregates, or under a layer of asphalt on the airport land. Part of Chromium impacted-soil could be placed under a building structure planned to be constructed during the IIAIP. Also, an alternative containment option is presented, consisting of disposal of all the contaminant in a monitored containment cell."

As reported in the Type B Application, the methods of decontamination have been presented to and accepted by the Environmental Protection Division of the Government of Nunavut's Department of Environment (GN-DEO).

No water use is planned for this undertaking.

B. Outstanding Issues

i. Technical Issues

Based on the NWB's initial review of the Type B Application, the Board has determined that there are questions that require clarification and that will allow the Board to holistically understand the entire scope of the proposed undertaking:

- Firstly, concerning the: "[c]onstruction of an on-Site waste containment cell with liner system to securely store drums, tanks, tar product, and PHC and Arsenic impacted soil". The Board notes that the status of this construction work is unknown, and whether it was already completed or not? A schematic of the cell with liner and cover systems (for-construction?) was provided to the Board but the schematic was not stamped by a Professional Engineer which is required by the NWB.

- Further, it was stated that:

  > "in order to monitor the level of leachate/water within the waste containment cell three 100-mm (4-inch) diameter polyvinyl chloride (PVC) standpipes shall be installed."

  However, it is not clear to the NWB at this time whether this "Lines Solid Waste Containment Cell" is to be a permanent waste disposal facility or not. If the facility is expected to be a permanent facility, the NWB seeks clarification with respect to who will be monitoring the leachate once the construction project is completed. Further, the NWB seeks clarification with respect to the monitoring details for the facility.

- The Type B Application indicates the following about PHC and Arsenic impacted soils:

  > "[will be] excavated and transported directly to either the waste containment cell or the designated location on Site where it will be used as common fill as part of the Project works."

  On that topic, Conestoga-Rovers & Associates (CRA) reports that:

  > "soils with concentrations greater than the RBCs will either be covered with a minimum of 1.0 m of clean material (aggregate or soil) or with a paved asphalt surface."

It is not clear to the NWB at this time whether thermal conditions will be monitored or not? If not, the NWB seeks to understand how the Applicant will ensure that, under 1 meter of clean material, the contaminated soils will be in permanent freezing conditions. The NWB understands that the active soil layer in locations such as Iqaluit generally vary between 1-2 meters.

- The *Soil and Groundwater Management Plan* included with the Type B Application indicates that there is to be groundwater monitoring downgradient of the areas to be excavated. However no monitoring details are provided to the NWB. The NWB expects that a complete list of parameters, frequency, duration, etc. will be provided for the Board's consideration and also the technical review of participants in the licensing process.

  Further, the NWB seeks to better understand whether this monitoring is proposed to be for sampling during the construction period only (i.e. to make sure no contaminants migrate), for long-term monitoring (i.e. to prevent contaminant migration from buried contaminated soils under apron area) or for both?

  Based on the correspondences between the GN-DOE and Arctic Infrastructure Limited Partnership (AILP) of July 2, 2014, there were 2 monitoring wells planned next to the apron and 2 additional wells downgradient, next to the new taxiway G. However, no details regarding the purpose of these wells and the monitoring plans were provided. The NWB requires this information to also be clarified.

Further, the Board requires more information on naturally occurring background levels (for example where the "background" sampling was conducted, any prior site assessment information that would provide pre-development background at the site if available, etc.). This type of information is required by the Board when there are indications that the background levels of specific parameters at a given site exceed generic criteria. This information is required to support the Board's assessment as to whether, given the background conditions specific to the site, the material will indeed not pose a risk to the environment despite exceeding generic criteria for some parameters.

The NWB notes also that no Spill Contingency Plan is included within the application package and this is a general requirement of this type of application.

ii. The Chromium Soils Issue

In the September, 5, 2014 letter from Mr. Stevens, additional information was provided to the Board, by way of an attachment. This included the WSP Canada Inc. (WSP) Environmental Memorandum Iqaluit Airport – Chromium under ATB footprint (Memo) which stated the following:

> "[A]s no Hexavalent (VI) Cr is present on site, and that Total Cr results are consistent with background it is clear that natural ground and stockpiled soil is of the same composition regarding chromium concentrations and propose consider this soil as

clean native soil and not hazardous waste."

While the Board doesn't necessarily disagree with WSP on the specific issue related to the potential impacts of the soil on the local environment and/or health and safety (as no VI Cr or industrial contamination associated with it was identified), the NWB nevertheless noticed that in many cases, the "Total Cr" concentration was higher than those levels prescribed by the CCME Criteria. Further, no information was provided to the NWB with respect to the source of the Total Cr background concentration reported in the Memo. Likewise, the NWB lacks information with respect to how the Applicant intends to use this soil:

- Is the soil intended to be used generally, in the same manner as if it was uncontaminated soil?
- What would be the remedial options if the levels of contamination identified during further testing identify that there is contaminated soil in the stockpile that could be considered hazardous material (the NWB's understanding is this soil wasn't originally included within the contaminated soils to be remediated with Tier 3 risk-based approach)?

iii. The Licence Holder Issue

The September 5, 2014 letter (GN Letter) from Mr. Stevens states the following:

> "[T]he Iqaluit International Airport Improvement Project (Project) is being carried out under a Public Private Partnership model or arrangement between the Government of Nunavut and Arctic Infrastructure Limited Partnership (AIP) with funding provided by Canada."

The GN Letter goes on to highlight the following:

> "AIP will operate and maintain the existing Airport during construction of the new facilities and for 30 years after the construction is completed."

However, the GN Letter also clarifies the issue of Airport ownership:

> "(…) the Government of Nunavut (GN) retains ownership of the Airport and representation of public interest"

Among other considerations, in granting rights to use water and/or deposit waste, the Board usually considers the need for monitoring programs to be undertaken, pursuant to s. 70 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA) and includes related terms and conditions to that effect in a licence. The Board notes that these types of monitoring terms and obligations often extend beyond a relatively short initial construction period and create on-going monitoring and reporting obligations for the licensee that extend throughout the term of the licence.

Neither the Type B nor the Type WL applications received by the Board, were from the Government of Nunavut or the AIP.

If AIP is indeed a legal entity and expected to be the operator exercising care, management and control of the site, it is appropriate for the AIP to be the Licensee. As the Board previously indicated to the Government of Nunavut with respect to this project, it is important for all participants to understand that the NWB does not generally license individual activities (such as separately licensing the movement or disposal of contaminated soil on one part of the site, construction of an on-site landfill, diversion of an individual water course, the water withdrawal from a specific surface water body) but rather licenses the overall undertaking that may include a number of water uses and waste disposal activities that could individually trigger the requirement for a water licence. This integrated approach to licensing assists all participants in ensuring that the overall obligations (such as terms in relation to monitoring, reporting, remediation, reclamation, abandonment and closure) imposed under a given licence are consistent, streamlined, integrated and appropriate given all the activities associated with that undertaking. For the objectives of integrated licensing to be met, it is critical that the licensee also be the entity which continues to have care, management or control over the undertaking in the long term, not just during a single phase such as design or construction. Based on what is known about this overall project, it appears to the NWB that the Government of Nunavut may be the party best situated to act as the licensee for this undertaking under an integrated licence.

iv. The Consolidation of Activities

As noted above, the NWB has now received two separate Applications for activities related to what it considers to be the same undertaking, namely the IIAIP. As the Board issues licences that are for undertakings (see above), as opposed to specific activities, the Board reminds the Applicant that the Board's preference is to receive only **one** Application for the undertaking that could authorize the various activities arising from the IIAIP. Indeed, the Board has provided clarification on this issue at numerous occasions in recent weeks and take notes of the Government of Nunavut's acknowledgement of this position in its September 5, 2014 Letter.

With respect to the licensing needs arising from specific activities making up the undertaking, the Board notes that it has provided guidance in its August 14, 2014 letter to Messieurs Reimer and Boulianne. In this letter, the Board clarified why a Type B licence would be required for watercourse training (which, in this case, is reported to be fish bearing and cannot be considered as an "intermittent watercourse" and/or having no "inflow or outflow"). Also, in that same correspondence, the Applicant was advised to apply for a single licence that identified all water uses and waste deposits likely to be associated with the project as a whole, as this would enable the Board and all parties to more efficiently review the application.

At this time, in light of the above, the Board notes that the Type WL Application previously received was put aside the moment the subsequent Type B Application was submitted for the same undertaking. As such, the Board expects the Applicant to proceed with a consolidation of all activities into one licence Application to submit to the Board for its consideration. The Board has communicated this requirement verbally at various occasions since its August letter.

C. Licensing Process

The Applicant is advised that once the items requiring further clarification are addressed, and all additional required information is received, the Board will be in a position to proceed with the next step in its licensing process, namely to distribute the (consolidated) Application for review and comment by third parties and the public.

Should you have any questions, please feel free to contact me at (867) 360-6338 x22 or by email at damien.cote@nwb-oen.ca at your convenience.

Yours truly,

Damien Côté
Executive Director