

## REASONS FOR DECISION

### WATER USE APPLICATION MN08-077

#### Village of Carmacks

#### Carmacks, YT

The Yukon Water Board (“the Board”) has concluded deliberations pertaining to Water Use Licence Application MN08-077 for a type A licence for a municipal undertaking submitted by the Village of Carmacks.

The purpose of the application is to operate and maintain a new wastewater treatment facility in Carmacks, Yukon and discharge treated municipal wastewater effluent into the Yukon River. The application also proposed to dispose treated sludge at the Village of Carmacks waste management facility.

In making licensing decisions pertaining to this application, the Board took into account the *Waters Act* (the “Act”), *Waters Regulation*, the application, recommendations from the interveners, the Board's standard licence requirements, the YESAA Decision Document, Chapter 14 of the Umbrella Final Agreement (“UFA”) and Board policies.

#### Public Hearing

Notice of this application was provided in accordance with the requirements of the *Waters Act*. In response, the Board received an intervention from Government of Yukon –Department of Environment (“Yukon Environment”). The Board did not receive a request for a public hearing. The *Act* provides that the Board may cancel a hearing where no party indicates an intention to participate. For this application, the Board determined that a public hearing would not be beneficial, and the hearing was cancelled.

The applicant did respond to the intervention. The response provided by the applicant’s agent is included in exhibit 6.1 of the register.

#### Environmental Assessment

This application required an environmental assessment under the *Yukon Environmental and Socio-economic Assessment Act* (“YESAA”).

Prior to making licensing decisions, the Board reviewed the YESAA Decision Document that is included in the water use register. As per section 86 of YESAA, the Board is also satisfied that the issuance of licence MN08-077 is not contrary to the terms and conditions included in the YESAA Decision Document.

In exhibit 1.2.2 of the register, it is noted that after the issuance of the Decision Document, the Village of Carmacks decided to modify the type of facility being used to treat the wastewater. To ensure that the Board was not overstepping its jurisdiction, confirmation was requested and obtained from the Government of Yukon Development Assessment Branch that the issuance of a

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licence would not be contrary to the YESAA Decision Document. A copy of this confirmation is included in exhibit 9.1 of the register.

### Background

The Village of Carmacks' previous water use licence MN00-034 was issued in January 2002 and expired June 30, 2006. Due to the expiry of the previous licence, the Board could not consider the issuance of water use licence MN08-077 as a renewal of MN00-034. Furthermore, the application before the Board was for authorization of the operation of a new mechanical waste water treatment plant; and the operation of this new facility varies substantially from that previously licensed by the Board under MN00-034.

Application MN08-077 originally included a proposal for a groundwater well pump test to supply the Village of Carmacks with drinking water. Due to the lack of available information and data, the request for the pump test was withdrawn from this application (filed in exhibit 1.8) and the commitment was made to file a separate application at a future date.

### Canada-wide Strategy for the Management of Municipal Wastewater Effluent ("MWWE")

The MWWE Strategy sets out a harmonized framework to manage discharges from wastewater facilities in Canada. It provides an agreed-upon path forward for achieving regulatory clarity for owners of municipal wastewater facilities. Performance standards will increase protection for human health and the environment on a national basis.

The MWWE Strategy was adopted by the Canadian Council of Ministers of the Environment (CCME) during the review of this application by the Water Board Secretariat. Modifications and updates to the application were made by the applicant to ensure consistency with the new strategy.

### Yukon Environment

The intervention filed by Yukon Environment is included in exhibit 5.1 of the register. The effluent discharge standards proposed by the applicant were accepted by Yukon Environment. These parameters are included in clause 19 of the licence.

Yukon Environment proposed significant changes to the monitoring requirements that were proposed by the applicant. On page 5 of their intervention, the assumption was stated that the plant would discharge more than 500m<sup>3</sup> of effluent per day, and thus they recommended that the Board include monitoring requirements consistent with "small" plants as defined in the National MWWE Strategy.

On October 1<sup>st</sup>, a response (included in exhibit 6.1) from the applicant indicated that the plant size is in fact below the 500m<sup>3</sup>/day threshold, and stated that the monitoring regime submitted to the Board was consistent with the MWWE Strategy for "very small" plants. The response from the applicant also attempted to address the concerns Yukon Environment expressed regarding

formaldehyde and surfactants.

A response from Yukon Environment was received and placed on file indicating that they did not intend to update their intervention based on the new information.

#### 100m Mixing Zone

The Board determined that CM1 (end of pipe) and CM2 (300 m downstream) would suffice for this size of facility to comply with the MWWE, and that CM3 (100m mixing zone boundary) recommended by Environment Yukon is not necessary given the “very small” MWWE designation for the size of the facility. There was insufficient supporting rationale provided by Environment Yukon to include the CM3 monitoring station in the licence. The MWWE described chronic toxicity testing as the main driver for the 100m mixing zone; chronic toxicity testing is not a requirement of this licence.

#### Surfactants and Formaldehyde

The Board determined that surfactants and formaldehyde will be monitored for the first year during the initial characterization period. The requirement for monthly monitoring from May to September is reflective of open water and when increased loading from tourist and RV traffic would be expected.

#### Toxicity Monitoring

Under the MWWE, neither chronic nor acute toxicity monitoring is required for very small plants. The Board determined to include acute toxicity testing of the wastewater effluent on a quarterly basis. Quarterly testing will be adequate to ensure the released wastewater does not have any adverse effects on the receiving environment.

#### Qualified Operator

In their intervention, Yukon Environment raised a concern over the classification of the facility and the level of operator training required to operate the facility. The Board included clause 14 to satisfy this concern.

#### Fencing and Signage

In clauses 17, the Board directs the Licensee to post signs for public safety after the issuance of the licence. Clause 16 requires the construction of a fence around the sludge disposal area by June 30, 2010, consistent with condition 10 of the Decision Document. The Board acknowledges that the ground is currently frozen and the construction of a permanent fence is not likely to be conducted until spring thaw.

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UFA-Chapter 14

The Board examined the proposed use of water as it relates to Chapter 14 of the Umbrella Final Agreement, as to quantity, quality, or rate of flow of water flowing on, through or adjacent to Settlement Land, including seasonal rate of flow, as follows:

- There are several parcels of settlement land immediately downstream (within 3km) of the new wastewater treatment facility, including LSC C-1B/D, LSC C-29FS/D, LSC C-21 FS/D, LSC C-18FS, LSC C-4B, LSC C-47FS, LSC C-7B, LSC C-11B.
- The estimated flow of the Yukon River during low flow period is  $260\text{m}^3/\text{s}$  (exhibit 1.2.5) or  $2.2 \times 10^7 \text{m}^3/\text{day}$ . Assuming a maximum discharge of  $500\text{m}^3/\text{day}$  from the plant, this represents an increased quantity of less than 0.1%.
- The effluent discharge criteria are consistent with those in other water use licences issued by the Board and with the CCME Canada Wide Standard for MWW.

Given the above considerations of geography, flow rate estimates, and water quality, the Board concluded that the proposed operation will not substantially alter the quantity, quality, or rate of flow of water flowing on, through, or adjacent to Settlement Land, including seasonal rate of flow.

Conclusion

The Board has relied on the representations, warranties and undertakings provided by the Licensee in the material filed in the application. The Board has approved the issuance of Water Use Licence MN08-077.



Chairperson  
Yukon Water Board

August 25, 2010  
Date