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Via email : licensingadmin@nunavutwaterboard.org

RE: 3BM-CLY0909 OM Manual Wastewater Treatment Facility Hamlet of Clyde River

Environment Canada (EC) has reviewed the above-mentioned manual submitted to the Nunavut Water Board (NWB). The following specialist advice has been provided pursuant to the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

The Hamlet of Clyde River, a community of approximately 870 people, is located on the eastern coast of Baffin Island. The Hamlet operates their municipal water, sewage, and solid waste facilities under NWB water license 3BM-CLY0909. The Government of Nunavut-Community and Government Services (GN-CGS), on behalf of the Hamlet of Clyde River, has submitted to the NWB an Operational and Maintenance (O&M) Manual as a requirement of water license 3BM-CLY0909.

Upon review of the manual and the plan, EC provides the following comments:

O&M Manual

- Section 3.11 Contact List. EC Emergencies Phone Number should be replaced with (867) 975-4644 (Iqaluit).
- Section 4.3 Decanting Operations. EC recommends providing a description or drawing of where the pump is to be set up for decanting, and where the effluent water should be directed. It is not clear whether the pump is set up in the old or new cell, nor which side of the system is best for directing the effluent into the wetland.
- Lagoon configuration. It is not clear from the O&M manual how the lagoon is configured with regards to location of raw sewage disposal and connection between cells. Is raw sewage to be delivered to both cells, or only one cell that would continually flow into the second cell? Better lagoon treatment could be achieved if raw sewage were only deposited in the old cell and then spilled over into the new cell when the old cell was full. This configuration would allow for more solids removal in part of the system. However, a spillway would need to remain thawed throughout the winter season to allow for continual operation. EC recommends providing clear explanation of where raw sewage is to be deposited, and where the effluent pump is to be set up.

- In the lagoon drawing and aerial photos, a berm exists along the South West edge of the wetland. EC recommends that the O&M Manual provide some explanation or description of the purpose of this berm to ensure the Hamlet maintains its integrity if necessary.
- Section 4.5 identifies that the "lagoon cells are facilities for treating human and industrial wastes." While very small quantities of industrial waste are anticipated to be used within households and the Hamlet Garage, no outside sources of industrial waste should be disposed of in the municipal lagoon. Industrial waste can severely affect lagoon treatment by impacting the biology and chemistry that are required for breakdown of liquid residential wastes.
- Table 6.2 should be reviewed to reflect terms of the licence with specific attention to the monitoring of volume vs. water quality as well as the status as being active or not-active.
- In section 6.5, it is not clear which of the previously mentioned stations is the compliance point. EC recommends identifying station CLY-4 and CLY-5 as the compliance point where the effluent quality standards apply.
- Section 6.10 Quality Control Samples recommends field blanks, blind duplicates and trip blanks to ensure certainty and accuracy of sample results. While these quality control measures are beneficial to ensure accuracy of sample results, they are not necessary for monitoring purposes and the Hamlet may wish to remove this section for the purpose of reducing analytical costs.
- The maps in Appendix E provide a good reference with regards to the design of the facility. If as-built drawings exist, these would be more appropriate to append to this document. EC recommends that the maps be referenced within the document.

Spill Response Plan – Appendix A

- Please note that EC is the lead administrative authority for pollution prevention provisions (Section 36(3)) of the *Fisheries Act*, while the Department of Fisheries and Ocean's Minister is accountable to Parliament for the *Fisheries Act* in its entirety.
- Spill kits should be readily available at all locations where fuel is being stored or transferred in order to provide immediate response in the event of a spill and should accommodate 110% of the capacity of the largest fuel storage container.
- EC recommends that a map indicating the fuel storage sites and locations of spill kits be attached to the document.
- Refuelling shall not take place below the high water mark of any water body and shall be done in such a manner as to prevent any hydrocarbons from entering any water body frequented by fish. EC recommends that drip pans, or other similar preventative measures, should be used when refuelling equipment.
- EC recommends the use of secondary containment, such as self-supporting insta-berms, for storage of all barrelled fuel rather than relying on natural depressions to contain spills.

If there are any changes to the O&M Manual, EC should be notified as further review may be necessary. Please do not hesitate to contact the undersigned with any questions or comments with regards to the foregoing at (867) 975-4631 or by email at Paula.C.Smith@ec.gc.ca.

Yours truly,

Paula C. Smith
Environmental Assessment Coordinator

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