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RE: Submission of OM Manual Wastewater Facility

Environment Canada (EC) has reviewed the above-mentioned O&M 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 has submitted to the NWB as a requirement of Part F, Item 1 of water license 3BM-CLY0909 an Operations and Maintenance (O&M) Manual which includes the following: Water Supply Facility O&M Plan, Sewage and Solid Waste O&M Plan, Hazardous Waste Management Plan, Sludge Management Procedures, Spill Contingency Plan, and Monitoring Program Quality Assurance/Quality Control Plan.

Upon review of the O&M Manual, EC provides the following comments:

General

- The Hamlet must ensure that any effluent discharged must be in compliance with Section 36(3) of the Fisheries Act. According to the *Fisheries Act*, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.
- 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.
- The O&M manual states that sewage will be discharge to both of the lagoon cells. Treatment would be optimized if one of the cells was isolated from raw sewage to establish and maintain more aerobic conditions, and EC recommends depositing raw sewage only into one of the cells but is aware that operators will be encouraged to discharge to the larger main cell prior to filling the small rehabilitated cell and overall decisions will be based on weather conditions.

- EC notes that it is expected that desludging is not expected to be required during the 20 year design life of the sewage lagoon therefore a sludge management plan has not been included in this O&M Manual. If a sludge management plan is later deemed to be required based assessments of sludge, EC suggests that maintenance procedures for de-sludging be included in the plan and should be referenced in the O&M Manual. EC recommends that sludges are characterized prior to disposal to ensure disposal options are appropriate.
- Section 2.5, Health and Safety, 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.
- Section 4.10 Quality Assurance and Quality Control Program, 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.
- EC notes a few minor typos in the document but overall is pleased that many of the issues raised in previous EC submissions have been addressed.

Appendix C - Spill Contingency Plan

- 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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