



WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Kugaaruk	Gordon Dinney, Gaetan Apsaktaun
Licence No. / Expiry	Representative's Title
3BM-PEL1419	SAO, Director of Public Works
Land / Other Authorizations	Land / Other Authorizations
Date of Inspection	Inspector
20-21 August 2014	Eva Paul
Activities Inspected	
<input type="checkbox"/> Camp	<input type="checkbox"/> Drilling
<input type="checkbox"/> Roads/Hauling	<input type="checkbox"/> Mining
<input checked="" type="checkbox"/> Other: Municipal Works	<input checked="" type="checkbox"/> Construction
	<input type="checkbox"/> Reclamation
	<input type="checkbox"/> Fuel Storage
	<input type="checkbox"/> Other:

Conditions:	A - Acceptable	C - Concern	U - Unacceptable	NA – Not Applicable	NI – Not Inspected
Water Use	Condition	Comment	Site Conditions	Condition	Comment
Intake/Screen	A	1	Water Management Structures	U	5
Flow Measure. Device	A	1	Culverts / Bridges	NI	
Source: Kugajuk River	A		Drainage	U	4
Water Use:	A		Erosion / Sediment	U	1
Recirculation (y / n)	NA		Mitigation Measures	U	1,2
			Reclamation Activities	NA	
			Materials Storage	NI	
Waste Disposal			Signage	C	6
Waste Water	A				
Solid Waste	U	2	Monitoring		
Hazardous Waste	U	3	Sample Collection / Analysis	U	7
*The number in the comments field will correspond with specific comments provided below.					
Samples taken by Inspector:			Location(s): PEL-1, PEL-6, PEL-9-2		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					

SECTION 1	<input checked="" type="checkbox"/> Comments (s. 1)	<input checked="" type="checkbox"/> Non-Compliance with Act or Licence (s.2)	<input checked="" type="checkbox"/> Action Required (s.3)
<p>An inspection was conducted on August 20 and 21, 2014, in cooperation with Mr. Shah Alam, Municipal Planning Engineer for the Government of Nunavut, Kitikmeot Region. We met with Mr. Gordon Dinney, the interim SAO, and were accompanied by Gaetan Apsaktaun, Director of Public Works for the hamlet for part (but not all) of the inspection. The new Water Treatment Plant (under construction), water intake, Solid Waste Facility, and Sewage Lagoon were inspected for compliance with the water licence. Monitoring Stations were verified, and some changes are recommended as the existing program (developed by the consultant who wrote the O&M Manuals) is onerous and impractical. In some cases stations are to be moved to reflect the licence requirements, and some redundant and unnecessary stations will be recommended for removal from the licence altogether. See Appendix 1, attached. Water usage records were inspected, and a brief administrative compliance review was conducted.</p> <p>1. Construction of the new water treatment facility is nearly complete. Pumps, screens, and lines have been upgraded. There remain concerns regarding salinity issues; there is no alternative water intake established at this time. The old pump-house has been retrofitted with two rooms; one encloses the back-up generator for the WTP, and the other is a storage area for the chlorine. An issue identified by staff at the new WTP is that the truck-fill pads on which the water trucks will back up are not built of sufficient depth to safely back up the trucks. The operational side is barely long enough, and the side not yet running is certainly too short; the truck risks driving over the bank. These areas will require some work to build up; meanwhile silt fences should be erected to reduce sediment deposition in the river. On the operational side, the truck drivers appear to be over-filling the trucks, and an erosion channel has formed down to the river. Care is to be taken by the truck drivers and mitigation measures put in place to prevent sediment deposition in the river.</p> <p>2. The O&M Manual for the Solid Waste Facility (2010), while thorough, is not being implemented and is currently unrealistic for the community of Kugaaruk. While the plan calls for ‘crews’ to carry out various activities on a daily basis, the Hamlet does not have even a single employee dedicated to managing solid waste in the community. Some basic segregation occurred when the facility was built, but is not being maintained within the SWF. Basic landfill management techniques (compacting and covering) do not appear to be employed consistently and in accordance with the plan. Currently no burning of any kind is allowed within the landfill (by the approved O&M Manual); however, burning of clean woods and cardboard in a designated area would reduce the volume of waste within the landfill.</p> <p>3. Car batteries were located in the SWF within the lined cell provided for that purpose; however, at some point the car batteries have been burned. This is extremely dangerous, as now the battery acid is no longer contained within the batteries; and any water touching the burned batteries is transporting acid out of the facility. Barrels of hazardous waste are not being stored in the lined areas provided for that purpose in the SWF; they are stockpiled in large quantity in an unlined area at the metals dump. A vast majority of the barrels belong to Diamonds North, who should not be permitted to deposit hazardous waste in a municipal facility within Nunavut. The Inspector will contact Diamonds North regarding the removal of the barrels. A ditch has been constructed to direct the groundwater that flows through the metals dump; however no measures have been taken to prevent</p>			



<p>waste from entering this creek, which also flows through the barrels of hazardous waste before leaving the dump area. Car batteries were also seen piled near the barrels. A plan for management of contaminated soil is required, as it has been determined that the landfarm, under 1BR-KRK1318, belongs to the GN and is not currently authorised for use by the municipality.</p> <p>4. Both parts of the landfill (SWF and Metals dump) have water flowing through, transporting pollutants downstream to the ocean. It appears that the trench was put in the metals dump deliberately; however no mitigation measures are in place to keep pollutants from that stream. Water should not be permitted to flow through the landfill; water management structures should be in place to divert water around the facility, and to retain any contact water for testing and treatment if necessary.</p> <p>5. The Sewage Lagoon is not operating according to the O&M Manual. Currently the valve that should allow free flow from the lagoon to the sediment pond (during summer months) is frozen closed. The hamlet is therefore pumping the effluent into the pond. The operators' understanding of the system is to actively pump to the sediment pond, and passively allow the effluent to exfiltrate or overtop the sediment pond. However, the manual calls for passively allowing the effluent to flow into the sediment pond, and actively decanting from the pond to the wetland. If the hamlet does not intend to fix the frozen valve; the current system should be assessed by an engineer to ensure that passive management of the sediment pond will not compromise the integrity of the berm. Discharge criteria must then be met at the last point of active control: within the first cell of the sewage lagoon (at station PEL-3-1).</p> <p>6. Monitoring station signage was installed as required, however some signs have been broken. Following the approval of the Board to modify the monitoring requirements, please ensure that new signage is installed to reflect the updated stations.</p> <p>7. Monitoring wells as required by the licence were not installed. Monitoring has not been consistently completed (only once in 2013). Staff are not confident in the sampling requirements or methodology. Samples were not received by the lab within 24 hours, therefore some of the results (BOD and Fecal Coliforms) are not valid. Please check with the lab to ensure they received the samples on time, and also review the sampling reports carefully to determine whether the results are valid. If a plane is delayed or it is known that the holding times will be exceeded, a second set of samples should be taken and submitted.</p> <p>8. Hydrocarbon spills were noted at the truck-fill station from one of the water trucks. This has the potential to contaminate the water source. As a temporary measure while the old water truck is in use, Gaetan put down spill pads weighted down with a metal grate to absorb the hydrocarbon and prevent it from following the erosion channel into the water source. These will have to be monitored and changed regularly. Small spills were noted on the sewage lagoon berm from filling the generator. A spill tray should be employed to prevent spills.</p> <p>9. Please note that the updated <i>Environmental Emergency Contingency Plan for Water, Sewage and Solid Waste Operations</i> is now due. The updated Plan is to take into consideration at a minimum, the comments received during the review of the previous Plan approved by the Board on January 22, 2010, and information regarding the new water treatment plant.</p> <p>10. Also note that an updated Quality Assurance/Quality Control Plan that conforms to the guidance document <i>Quality Assurance (QA) and Quality Control (QC) Guidelines For Use by Class "B" Licensees in Collecting Representative Water Samples in the Field and for Submission of a QAQC Plan INAC (1996)</i> is now due.</p> <p>11. Please ensure that records of water use during the pump-house construction are maintained for reporting purposes.</p> <p>12. The annual report did not make note of the invalid sampling results; they were reported as valid.</p> <p>13. O&M Manual for SWF is not being implemented. The existing QA/QC Plan (monitoring) is not being implemented.</p> <p>14. A minimum of 10 days notice is to be given to the Inspector prior to decanting of the lagoon. Samples must be taken to ensure that discharge criteria are met.</p> <p>15. Please note that as per Part F Item 1, the <i>Water Collection and Distribution Operation and Maintenance (O&M) Manual</i> for the new WTP is due for submission on or before November 14, 2014.</p>			
SECTION 2	<input type="checkbox"/> Comments	<input checked="" type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
<p>Part B Item 3: Failure to comply with the monitoring program, in that samples were not collected in the frequency outlined, and monitoring wells were not installed as prescribed.</p> <p>Part B Item 9: Failure to implement plans as approved (QA/QC and O&M plans).</p> <p>Part C Item 7: Causation of erosion to the banks of the Kusugak River at the water intake, and failure to implement controls to prevent erosion.</p> <p>Part C Item 8: Failure to implement and maintain sediment and erosion control measures.</p> <p>Part D Item 9: Failure to segregate and store all hazardous materials and/or hazardous waste within the Solid Waste Disposal Facility in an appropriate and safe manner.</p> <p>Part D Item 10: Failure to implement measures to prevent hazardous materials and/or leachate from the Solid Waste Disposal Facility from entering water.</p> <p>Part E Item 6: Failure to implement and maintain sediment and erosion control measures prior to and during construction activities.</p> <p>Part F Item 2: Failure to submit the <i>Environmental Emergency Contingency Plan for Water, Sewage and Solid Waste Operations</i> plan within 90 days of issuance of the licence.</p> <p>Part F Item 3: Failure to implement the <i>Sewage Treatment Facility Operation and Maintenance Manual</i> (QA/QC and monitoring) plan.</p> <p>Part F Item 4: Failure to implement the <i>Solid Waste Facility Operation and Maintenance Manual</i> (plan).</p> <p>Part H Item 11: Failure to submit the updated <i>Quality Assurance/Quality Control Plan</i> within 90 days of issuance of the licence.</p>			
SECTION 3	<input type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input checked="" type="checkbox"/> Action Required
<p>1. Measures to prevent sediment from entering the water are to be implemented immediately at the water treatment plant.</p> <p>2. Trucks are not to be over-filled, as this is causing erosion of the banks to the river.</p> <p>3. Trucks are to be serviced to prevent leaking of fluids, and spill pads at the truck-fill changed regularly to prevent contamination</p>			



- of the water source.
- Ideally, access to the water treatment plant should be restricted to authorised personnel only.
 - All car batteries should be collected **immediately** and placed in lined crates or a lined sea-can for backhaul; packaged in accordance with Transportation of Dangerous Goods requirements. Photos demonstrating the completion of this action are to be sent **to the Inspector by September 12 2014**.
 - All hazardous waste is to be placed within the lined cells that are available. Hazardous waste should be shipped out annually if possible.
 - Updating of the O&M Manual for Solid Waste is recommended to include practices that are viable in the community and that are consistent with “*Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996*”. Segregation of wastes should be implemented, as per the Manual, as should ‘compacting and covering’, in order to prolong the life-span of the facility. A plan for contaminated soil generated by the community should be included. Industrial waste should not be accepted in the municipal facility. An interim plan to improve management of the SWF (including hazardous waste as described in items 5 and 6) is to be provided **to the Inspector by November 30 2014**.
 - Upgrades to the SWF and Metals dump should be contemplated to stop water that flows through the facilities.
 - Pending the approval of the Board to modify the monitoring requirements, please ensure that new signage is installed to reflect the updated stations.
 - Pending the approval of the Board to modify the monitoring requirements, please ensure that the required monitoring wells are installed.
 - Effective immediately**, sampling station 3-1 is to be moved to the upper berm of the sewage lagoon, where the pumping occurs from cell 1 to cell 2 (coordinates provided in Appendix 1).
 - Monthly sampling at stations 3-1, 3-2, 4, and 6 is required until any changes to the monitoring program are approved. Lab results are to be submitted to the inspector prior to decant until further notice.
 - The *Environmental Emergency Contingency Plan for Water, Sewage and Solid Waste Operations* is to be prepared and submitted to the Board with the Annual Report.
 - The updated *Quality Assurance/Quality Control Plan* is to be prepared submitted to the Board with the Annual Report.
 - Plans are to be implemented as written unless otherwise approved by the Board.
 - A minimum of 10 days written notice is to be given to the Inspector prior to decanting of the lagoon. Samples must be taken to ensure that discharge criteria are met.

Licensee or Representative	Inspector's Name
-	Eva Paul
Signature	Signature
-	Sent electronically
Date	Date
-	September 3, 2014

APPENDICES:

☐ Inspection Photos

☐ Sample Results

☒ Other: Proposed changes to monitoring prgm

Office Use Only:

Follow-up report to be issued by Inspector

☐ Yes

☐ No

CC: Phyllis Beaulieu, Manager of Licensing, NWB
 Erik Allain, Manager of Field Operations, AANDC