



NWB Tools

Richard Dwyer <richard.dwyer@nwb-oen.ca>

Status of the Hamlet of Kimmirut , Cape Dorset and Arviat Water Licences (3BM-KIM, 3BM-CAP and 3AM-ARV)

Sonia Aredes <sonia.aredes@nwb-oen.ca>

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To: "Lusty, Megan" <MLusty@gov.nu.ca>

Cc: BWestwell@gov.nu.ca, Cynthia Ene <cynthia.ene@nwb-oen.ca>, Sean Joseph <sean.joseph@nwb-oen.ca>, David Hohnstein <david.hohnstein@nwb-oen.ca>, Karen Kharatyan <karen.kharatyan@nwb-oen.ca>, Stephanie Autut <stephanie.autut@nwb-oen.ca>, Richard Dwyer <richard.dwyer@nwb-oen.ca>

Good Morning

This email is in response to the email sent to the NWB by Bill Westwell on November 14, 2017 with regard to the status of the Kimmirut and Cape Dorset Water Licences. Particularly, the GN wanted to know the information required by the Nunavut Water Board (NWB) in order to start the processing of these files.

Also, the status of the Hamlet of Arviat Licence is discussed at the end of this email.

Hamlet of Cape Dorset File History

The Hamlet of Cape Dorset has been without a valid water licence since March 2010. The Hamlet Licence 3BM-CAP0810 expired on March 1, 2010. Applications for renewal of the Water Licence were submitted in the following years: 2010, 2011, 2013 and latter in 2016.

The main unresolved issue is the operation of the Hamlet sewage lagoon.

The Three Tier Lagoon is the main sewage disposal for the community. The Three Tier Lagoon has an history of no compliance issues, mainly related to its deficient capacity to treat the community sewage; once full, it overflows discharging untreated sewage onto the roadway and into the fish bearing water. When there is a blizzard, the Hamlet discharges the untreated sewage into a natural ditch called "Emergency Lagoon".

In 2007 a new sewage lagoon was constructed but it was never commissioned; the design of the facility was questioned by regulators, indicating that it was built in a location with unfavourable geological characteristics and omitting the installation of thermistors which are essential to mitigating geo-structural risks. Also, as stated by the NWB *“The new sewage lagoon appears to have been built without environmental assessment, and certainly without this Board’s regulatory review and approval.”* (as per the 3BM-CAP0810 Decision.

The 2016 Application by the Hamlet of Cape Dorset excluded the use of the lagoon constructed in 2007 and proposed the use of the existing sewage lagoons - Three Tier Lagoon and the Emergency Lagoon - for the Hamlet sewage treatment.

However, the Three Tier Lagoon has been deemed as no compliant by the INAC inspector a number of times. INAC Inspection Reports highlighted a number of issues^[1] related to the Sewage Disposal Facilities. It was reported the three tier lagoon is operating above its intended capacity and is at risk of catastrophic failure^[2].

On July 28, 2016 the INAC Inspector issued a letter entitled “Regulatory Concerns Regarding Sewage Management Practices in Cape Dorset”. It states, *during the course of the inspection, significant concerns were noted with the ‘Three Tier Lagoon’ structure. This lagoon system has a history of structural failure and water samples from the effluent of this lagoon have consistently failed to meet effluent quality discharge criteria as set in the Hamlet of Cape Dorset’s Water License. And concludes that the Three Tier Lagoon is at risk of failure, and is a threat to public health.*

Hamlet of Kimmirut File History

The Hamlet of Kimmirut has been without a valid water licence since January 2011. The Hamlet Licence 3BM-KIM0911 expired on Jan 29, 2011. An application for renewal of the Water Licence was submitted in August 2013, and then again a new Application in May 2016.

The main unresolved issue is the operation of the Hamlet sewage lagoon.

The Hamlet of Kimmirut currently discharges its untreated wastewater directly to a ditch which discharges into the sea, approximately 750 metres south of the community.

In 2001 a new sewage treatment facility was constructed approximately 1.5 km to the west of the community. This sewage treatment facility called the “Enhanced Sewage Treatment Facility (ESTF)” includes two lagoons operated in series and a wetlands area.

The effluent from the wetlands will be discharged into Lake Tulsit; this lake drains down to the large Soper Lake, which contains a mix of freshwater and salt water. The facility was never commissioned. Concerns with regard to this Facility (the “Enhanced Sewage Treatment Facility”) are:

- Effluent quality at the point of discharge (second lagoon outlet) cannot meet criteria for discharge
- Risk of structural failure
- Risk to the fish

On May 30, 2016 the Hamlet submitted a new application for renewal and amendment of the 3BM-KIM0911 Water Licence. The Application excluded the use of the Enhanced Sewage Treatment Facility - ESTF and proposed the use of the existing sewage discharge system (ditch).

This issue, the use of the ditch, is mentioned as the “largest single issue” for the Inspector in the 2013 INAC Inspection Report (INAC Inspection Report August 8, 2013). Failures were reported regarding:

- Effluent Quality at the point of discharge does not meet the quality criteria for discharge,
- Risk of structural failure

April 13, 2017 Conference Call

This conference call was set up in order to discuss the status of Hamlet of Kimmirut and Cape Dorset Licences. The following is the list of attendants

Erik Allain and Justin Hack, INAC

Craig Broome and Curtis Didham, ECC

Teresa Meadow, Ida Porter and Sonia Aredes NWB

Concerns expressed at the meeting were regarding the inability of the Hamlets sewage treatment facilities to attain the Water Licence discharge limits, the risk to the fish population and the structural issues found by the Inspectors during inspection performed to the facilities.

The final agreement was that the Hamlet of Kimmirut as well as the Cape Dorset will submit an updated renewal application; the updated applications shall satisfy the points presented below

Information Required by the Nunavut Water Board (NWB) in order to Start the Processing of these Files (3BM-KIM and 3BM-CAP).

Each renewal application shall be submitted with a **compliance plan** that:

- addresses the sewage treatment issues
- with clear deadlines for the objectives to be achieved
- submitted with a document showing that an appropriate budget has been allocated to the construction of new / repair of the Sewage Treatment Facility(s).

Further to this, the Proposed Hamlet Sewage Effluent Treatment Facility (s) shall be one that

- Ensure compliance with the Water licence discharge criteria at the final point of discharge;
- Does not represent a risk to the fish; and that
- is (are) structurally sound

Below is a short list of documents to be submitted:

- 1) Complete and updated Application Form; and
- 2) Plan for Compliance that addresses sewage treatment, with clear deadlines for the objectives to be achieved and evidence that a budget has been allocated to address the issues;
- 3) Operations and Maintenance Manual for existing facilities;
- 4) Spill Contingency Plan;
- 5) Abandonment and Restoration Plan for the existing sewage facilities that will be abandoned; the A&R Plans shall contemplate remediation of the soil (ground and subsurface areas) impacted by the sewage effluent discharge

Arviat Type A Water Licence:

With regard to the Arviat Water Licence, as per the email communication received from Megan Lusty on October 19, 2017, please note that the NWB is waiting for the submission of the Arviat Type A application:

<ftp://ftp.nwb-oen.ca/registry/3%20MUNICIPAL/3A/3AM%20-%20Municipality/3AM-ARV1016/1%20APPLICATION/171019%203AM-ARV1016,%20File%20Follow-up%20Applicant%20Response-ILAE.pdf>

I will be glad to answer any question in regard to these files

Regards
Sonia Aredes
Technical Advisor, NWB
604-369-8741

[1] INAC Inspection Reports, dated May 22, 2009; July 29, 2010; September 11, 2011;

[2] INAC Inspection Report dated August 10, 2014