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Building *Nunavut* Together
Nunavut liuqatigiingniq
Bâtir le *Nunavut* ensemble

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Department of Community and Government Services
Nunalingni Kavamatkunnilu Pivikhaqautikkut
Ministère des Services communautaires et gouvernementaux

Nunavut Water Board Technical Meeting

Water Licence Renewal
and Amendment
Chesterfield Inlet
3AM-CHE----



Ministère des Services communautaires et gouvernementaux

Existing Licence

Water Licence: 3AM-CHE---

- Date of Licence Issuance: May 15, 2015
- Expiry of Licence: May 14, 2023
- Scope of Licence:

This Licence allows for the use of Water and the deposit of Waste for a Municipal undertaking classified as per Schedule 1 of the Regulations at the Hamlet of Chesterfield Inlet.

- This application is for the renewal of the existing licence and an amendment to change to a Type A licence to reflect that the annual resupply of the raw water reservoir exceeds 299 m³/day. All water use and waste disposal activities remain the same as in the existing licence.

Background

- First Lake is the domestic water supply for the Municipality of Chesterfield Inlet, approximate population of 437 (2016 Census)
- The watershed is frozen for seven to nine months a year; therefore, a raw water reservoir must be adequately supplied prior to freeze-up each year. There is no change to the resupply operations at First Lake.
- Chesterfield Inlet currently uses up to 2000 m³/day for approximately 14 days to fill the reservoir.
- The reservoir was built and has been in use since the early 1990s.

Water Supply Infrastructure



Background

- The sewage treatment facility is located approximately 2.2 km west of the community.
- The facility was upgraded in 2010 and is comprised of two truck discharge areas, two sewage detention cells, and a wetlands area with a series of four small ponds and two flow diversion berms.
- The wetlands encompass an area that is approximately 10.4 hectares. Effluent flows 800 to 1000 metres through the wetlands from the sewage detention cells to the marine environment of Finger Bay on Hudson Bay.

Wastewater Disposal Infrastructure



Background

- Chesterfield Inlet's solid waste disposal facilities consist of a fenced disposal area for municipal solid waste (MSW), a separate bulk metal disposal area approximately 200 m south of the fenced MSW area, and two drum storage areas, approximately 150 m and 270 m southeast of the MSW area.
- A decommissioned landfill is present between the fenced MSW area and the bulk metal disposal area, at the head of the sewage treatment wetland.
- The Hamlet collects solid waste from community buildings five days a week with a garbage truck and transports the waste to the MSW disposal facility, located 2.2 km west of the community. The MSW disposal facility covers an area approximately 24,000 m² and is situated adjacent to and north of the sewage disposal facility.

Solid Waste Disposal Infrastructure



Sampling Program

| Station | Description | Frequency |
|---------|--|--|
| CHE-1 | Raw Water supply intake at First Lake | Daily, Monthly, Annually Once per month in May, June, July and August during periods of observed flow |
| CHE-2 | Runoff from the Solid Waste Disposal Facility | |
| CHE-3 | Effluent from the Sewage Holding Cell 1 | |
| CHE-3a | Effluent from Sewage Holding Cell 2 | |
| CHE-4 | Final Discharge Point for Effluent from the wetland treatment area prior to Finger Bay | |

Sampling Program





Ministère des Services communautaires et gouvernementaux

Regulatory Review

ECCC Comments

01. Sludge Management

CGS Response:

The sludge level is observed through visual inspection during the annual inspection and has not been identified as a compliance issue in the reports.

GN-CGS is seeking funding to upgrade the wastewater treatment facility, and this will include a sludge management plan.

ECCC Comments

02. Runoff Collection

CGS Response:

Runoff from the Solid Waste Facility is not collected. Monitoring location CHE-2 monitors free flowing runoff from the Municipal Solid Waste Facility prior to entering the Wetland Treatment Area. There has been no indication that leachate has caused a negative impact on the wetland historically based on sampling results, but monitoring stations will continue to be monitored in the future.

CIRNAC Comments

01. Abandonment and Restoration Plans

CGS Response:

Abandonment and Restoration plans are developed by third parties hired by GN-CGS at the time the plan is required, as they are site and asset specific.

CIRNAC Comments

02. Inspection Reports

CGS Response:

CGS is currently undertaking a project to identify the type of inspection, frequency of inspection, and the appropriate professional with the specific training to undertake the inspections for assets authorized under the municipal water license. This report is expected to be complete in 23/24 and will be provided to NWB for distribution.

CIRNAC Comments

03. CHE-1 Daily Volumes

CGS Response:

GN-CGS will report the daily volumes pumped from First Lake during the annual resupply in the annual report.

CIRNAC Comments

04. CHE-1a

CGS Response:

Monthly volumes are currently reported in the annual report based on billing records from the community. Given that the pump house draws water for consumption from an engineered reservoir and not a natural water source, GN-CGS will report based on resupply volumes going forward, rather than withdrawal at the pump house.

Sewage disposal reported in the annual report will continue to correlate with monthly water usage based on billing records.

CIRNAC Comments

05. Landfarm Use

CGS Response:

The landfarm is not currently in use by the Municipality for remediation of contaminated soils. A letter of authorization will be requested from the owner in the event that use of the landfarm by the municipality is required.

Renewals and Amendments for the Water License

| Request | Justification |
|------------------------|---|
| Licence Term: 10 years | There is no change in municipal operations and water use is not expected to increase beyond the current annual limit within the next 10 years, based on population projections. |

Renewals and Amendments for the Water License

| Request | Justification |
|--|---|
| Maximum Daily Water Withdrawal: 2000 m ³ | The watershed is frozen for seven to nine months a year; therefore, a raw water reservoir must be adequately supplied prior to freeze-up each year. There is no change to the resupply operations at First Lake, or the required annual volume of water required. |

Renewals and Amendments for the Water License

| Request | Justification |
|---|--|
| <p>Removal of requirements that are not practical or are no longer applicable. This includes:</p> <ul style="list-style-type: none">• Submission of paper documents• Aligning submission deadlines with the annual report• Daily waste disposal reporting | <p>A justification for these items was submitted with the licence application.</p> |

Thank You

