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Renewal and Amendment of the Resolute Bay Utilidoy System
Water Licence #3 BM-RUT 1520 Type A for Ten (10) yrs. term

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Period of operation: from 0001-01-01 to 0001-01-01

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Executive Summary of the Hamlet of Resolute Bay Water Licence # 3BM-RUT 1520. The Hamlet of Resolute Bay is located on the south coast of Cornwallis Island on the Perry Channel at 74043'01N and 94058'10"W. The current population of the town is 279 (2019). During summer, the town population is increased to about 800 due the presence of the Military. There are (3) three water licenses in the community. The Government of Nunavut Community and Government Services (GN-CGS) is the licensee of the Utilidor system and the Water Licence number is 3BM-RUT 1520. This licence was issued on March 30, 2015 and this will expire on March 29, 2020. Char Lake is the approved water source in the Community. A hydrology study conducted by exp Services Inc. shows that there was sufficient stored volume between the extreme of ice thickness and the raw water intake to support two (2) successive years of extreme high demand like 300,000 cubic meters annually combined with extreme low precipitation (78.2 mm total) just prior to the replacement period of the buried pipes. The pump station has a meter to record the annual extraction volume from the Lake. The total extraction volume in 2018 was 156,062 cubic meters. The Airport facilities shared 5,000 cubic meters annually. Water Truck is the only mode of distribution system for the Airport facilities. Sewage is also collected by sewage trucks from house to house and dumped into a sewage lagoon which is operated under a different water licence. The Utilidor system consists of a pump station at Char Lake, intake pipe, water treatment plant at Signal hill, water distribution and sewer lines, fire hydrants, access vaults and a macerator unit. The Utilidor system was built in 1970's without a wastewater treatment plant. In 2016, the entire buried utilities were replaced and also expanded. In 2020, the construction of the pump station at Char Lake and is the existing water treatment plant at Signal Hill is scheduled to be completed. The sewage effluent via wastewater pipes is diluted before entering into the sea. The effluent discharge occurs just above the low tide mark. The effluent is discharged continually into the ocean at high tide and on land at low tide. Following the condition in part C, item 4 of the existing water licence; a site specific study for the determination of Fecal Coliform limit for sewage disposal facility was determined and has been submitted to the Water Board. A consultant is hired to conduct a site selection study to build a new mechanical wastewater treatment plant. The design concept was initiated and needs to be revised and upgraded. The new plant is anticipated to be built and commissioned in 2024. This plant will also receive truck sewage coming from the Airport facilities. The airport sewage lagoon will be decommissioned soon after the new Mechanical wastewater treatment plant is commissioned. A consultant is engaged for replacing the Char Lake existing Pump station, Signal Hill Water Treatment plant upgradation and also building a new mechanical wastewater treatment plant to improve the overall water distribution system ; wastewater collection and Treatment process to bring the Utilidor water licence into full compliance. The entire Utilidor system operation was contracted out to the Contractor ATCO and they day to day run and monitor these facilities. The summer samplings are taken and get tested by the Ottawa based Accredited Caduceon Lab. The annual report is submitted on time. The O&M manuals will be submitted to the Water Board soon after the constructions of the all three structures are completed. The daily water extraction volume exceeds 300 cubic meters/day and also exceeds the annual extraction volume 60,000 cubic meters. 2018 Annual Report identifies that Resolute Bay consumed 152,062 cubic meters, therefore, a ten years term for renewal of the Type A licence is recommended with 160,000 cubic meters of usage. The time period of ten years is expected to provide a realistic opportunity for the licensee to meet the long term requirements of the Licence and establish a consistent compliance record.

▷ΔΔ∩▷◁: Résumé du permis d'utilisation des eaux du hameau de Resolute Bay No 3BM-RUT 1520. Le hameau de Resolute Bay se situe sur la côte sud de l'île Cornwallis, sur le chenal Parry, aux coordonnées suivantes : 740 43'01 N et 940 58'10" O. La ville a une population actuelle de 279 habitants (2019). Durant l'été, la population de la ville passe à environ 800 personnes

[illegible]

Post-Closure Phase: from to

$\Lambda \subset \mathbb{N} \triangleleft \mathbb{N} \xrightarrow{\sigma} \mathbb{Q}^6 \supset C$

[illegible]

$\Delta^{\alpha} \Gamma^{\beta} \Lambda^{\gamma} \Sigma^{\delta}$

$a^b r^c \sigma^d$ $\Lambda_{\mu\nu} \delta^\mu_\alpha \delta^\nu_\beta$ $\partial_\gamma \omega^\gamma_\delta$

North Baffin

[illegible]

| ፊኒሽንግ ስርዓት / ፖሊስ አገልግሎት | የቴክኒካል ዝግጅት አገልግሎት | የፕሮጀክቱ ስጦታ | የፖሊስ አገልግሎት በፖሊስ ተቋም | የፖሊስ አገልግሎት በፖሊስ ተቋም |
|----------------------------|--|------------|-------------------------|-------------------------|
| ፊኒሽንግ ስርዓት በፖሊስ ተቋም | The Utilidor system consists of a Pump Station, Intake line, A WTP, Distribution line, Sewer Line, a Macirtaor unit and final discharge pipe | Active | | |
| ፊኒሽንግ ስርዓት በፖሊስ ተቋም | Water licence will be renewed by NWB. | Active | | |
| ፊኒሽንግ ስርዓት በፖሊስ ተቋም | Amendment and renewal of the existing Licence for 10 yrs as Type A | Active | 2015-03-30 | 2020-03-29 |

Project transportation types

[illegible]

Project accomodation types

00-1796

$\triangleleft^b C d^c$
$$\Delta^b C d_c n \sigma \Delta^c \sigma^c$$

| Location | Flow Rate (m³/day) | Volume (m³) | Discharge Method | Notes |
|--------------------------------------|--------------------|---|--------------------------|---|
| Seismic lines | ~500 | 427.57 cubic meters/day | pumping through the pipe | Using a Macerator unit currently. Expected a new Wastewater Treatment Plant in 2024 |
| Municipal and Industrial Development | ~500 | Very close to 136,000 cubic meters annually | Gravity drainage | Macirator unit is used at the effluent line |

4907D0^cD^c 4^bD^{5b}CD⁷L²

No Impact

Additional Information

SECTION A1: Project Info

The Utilidor system consists of a Pump station, an Intake line, a WTP, a distribution line, a sewer line, a macirator unit and a final sewer outfall

SECTION A2: Allweather Road

Yes

SECTION A3: Winter Road

Yes

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

Always for easy and safe traffic movement

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION 11: Municipal Development

Yes, this system provides safe environment and community growth

[illegible]

Safe

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Safe

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Safe

Miscellaneous Project Information

Clarifying points include but are not limited to: • Clarification on what construction activities would be occurring and what activities would be in continued use; Ans.: The old pump station at Char lake, Water Treatment Plant, water Storage tank, the entire Utilidor system will be continued to use .The construction of the new Pump station at Char Lake, rehabilitation of the water plant in phases will be continued in 2020 and 2021.The construction of the new WWTP is anticipated in 2021 and 2022. • Clarification on whether the sewage lagoon would be decommissioned under this proposed licence;Ans. No • Clarification on whether existing roads would be used for construction activities and new facilities or new roads would be built; Ans. The road is existing in good condition and new facilities will be connected with the existing road. no need for additional road. • Identification of hazardous materials and whether they would be stored at a construction site or within community facilities;Ans. The community has a designated waste site under different licence. In case any kind of hazardous materials produced will be dumped in that waste site. Expected hazardous materials are sludge and contaminated soil. •

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Cumulative Effects

Good and healthy for the Public and environment

Impacts

$\omega \rightarrow \omega \Delta^{\epsilon_b} C D \sigma^{\epsilon_c} \Gamma^c$ $\Delta^c \cap \Gamma D C \dot{\sigma}^c \supset^c$ $\Delta^b \supset^{\epsilon_b} C D \Gamma L \dot{\Gamma}^c$

[illegible][illegible]

New project geometry: This is the Utilidor system consists of a Pump station at 1 point Char Lake, WTP at signal Hill, Storage Tank at Signal Hill, Intake pipe, water and sewer buried lines, Fire hydrants, Valves, a Macirator unit and sewer outfall.

