



# **NUNAVUT WATER BOARD**

**TYPE "A" WATER LICENCE NO. 8AC-ALT1929**



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**Licence No. 8AC-ALT1929**

Pursuant to the Nunavut Waters and Nunavut Surface Rights Tribunal Act and the Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to the

**DEPARTMENT OF NATIONAL DEFENCE**

(Licensee)

**Assistant Deputy Minister (Infrastructure & Environment) (Carling)  
C/O: Canadian Forces Real Property Operations Group  
/Real Property Operations North, Chief of Staff North  
60 Moodie Drive  
Ottawa, ON, K1A 0K2**

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use Water or deposit Waste for a period subject to restrictions and conditions contained within this Licence:

Licence Number / Type:	<b>8AC-ALT1929 / TYPE "A"</b>
Water Management Area:	<b>ARCTIC OCEAN AND LINCOLN SEA WATERSHED (61)</b>
Location:	<b>CFS-ALERT, ELLESMERE ISLAND, QIKIQTANI REGION, NUNAVUT</b>
Classification:	<b>MILITARY/RESEARCH (OTHER) UNDERTAKING</b>
Purpose:	<b>USE OF WATERS AND DEPOSIT OF WASTE</b>
Quantity of Water not to be Exceeded:	<b>EIGHT HUNDRED SEVENTY FIVE (875) CUBIC METRES PER DAY</b>
Date Licence Issuance:	<b>NOVEMBER 1, 2019</b>
Expiry of Licence:	<b>OCTOBER 31, 2029</b>

This Licence issued (**Motion Number: 2019-16-P14-05**) and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

Lootie Toomasie  
Chairman  
Nunavut Water Board

**APPROVED  
BY:**

Minister of Crown-Indigenous  
Relations and Northern Affairs

**APPROVAL  
DATE:**



**PART A: SCOPE, DEFINITIONS, AND ENFORCEMENT**

**1. SCOPE**

1. This Type “A” Water Licence No. 8AC-ALT1929 (“Replacement and Amended Licence” or “Licence”) authorizes the Department of National Defence (“Licensee” or “DND”) to use Water and deposit Waste in support of a Military and Research undertaking, classified as “Other” under Schedule 1 of the Regulations, within the CFS-Alert Project, at the following approximate geographic coordinates:

Undertaking	Latitude	Longitude
Military/Research (Other)	82° 30’ 01” N	62° 20’ 37” W

The scope of activities, works, and undertakings authorized in accordance with the terms and conditions of this Replacement and Amended Licence are as follows:

- a. Withdrawal of Water from Upper Dumbell Lake to supply the camp and support project activities;
- b. Continued operation of the following facilities:
  - i. Water Treatment and Supply Facility to treat and circulate water for project use;
  - ii. Wastewater Treatment Facilities to treat and dispose of Wastewater and Sewage, including a Terrace Wetland Treatment Area and a proposed packaged Wastewater Treatment Plant;
  - iii. Solid Waste Management Facilities to dispose of solid and hazardous wastes generated by the project, including the Main Station Landfill (solid domestic waste), the Millionaires Dump (large object), or the HazMat Barrel Compound (empty fuel barrels), two legacy dumps that are no longer used: the Battery Dump and Dump 3 (machine parts and metal objects).
  - iv. Fuel Storage Facilities, including an Airport/Lower Fuel Tank Farm, an Upper Fuel Tank Farm, and a Day Fuel Tank Farm, all connected by a pipeline; and
  - v. Operation of two Landfarms to treat hydrocarbon contaminated soils: the Airfield Landfarm and the Day Fuel Tank Landfarm.
2. This Licence is issued subject to conditions contained herein with respect to the use of Waters and the depositing of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing *Regulations* are amended by the Governor in Council under the *Act*, or other statutes imposing more stringent conditions relating to the quantity, type or manner under which any such Waste may be so deposited, this Licence shall be deemed to be subject to such requirements; and
3. Compliance with the terms and conditions of this Licence does not absolve the Licensee from the responsibility for compliance with all applicable legislation, guidelines, and directives.



## 2. DEFINITIONS

1. The Licensee shall refer to [Schedule A](#) for definitions of terms used in this Licence.

## 3. ENFORCEMENT

1. Failure to comply with this Licence shall be a violation of the Act, subjecting the Licensee to the enforcement measures and the penalties provided for in the Act.
2. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the Act.
3. For the purpose of enforcing the terms and conditions of this Licence with respect to the use of Water and deposit or Discharge of Waste in Waters, Inspectors appointed under the Act, hold all powers, privileges, and protections that are conferred upon them by the Act or by other applicable laws.

## **PART B: GENERAL CONDITIONS**

1. The Licensee shall file, with the Board for review, no later than the 31<sup>st</sup> of March of the year following the calendar year being reported, an Annual Report formulated in accordance with the requirements under [Schedule B](#) of this Licence.
2. The Licensee shall maintain a copy of this Licence at the CFS-Alert Project location at all times.
3. The Licensee shall file an application for renewal or amendment of this Licence at least one (1) year prior to the Licence expiry or requested amendment.
4. The Licensee shall, to the satisfaction of an Inspector, install, operate, and maintain meters, devices or other appropriate methods for measuring the volumes of Water used and Waste Discharged or deposited.
5. The Licensee shall post the necessary signs to identify the Monitoring Program Stations included under [Schedule I](#) of this Licence. All signage shall be in the Official Languages of Nunavut.
6. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted cannot be undertaken without subsequent written approval and/or directions from the Board. The Board may alter or modify a Plan if necessary to achieve legislative objectives and will notify the Licensee in writing of acceptance, rejection, or alteration of the Plan.
7. The Licensee shall, for all Plans submitted under this Licence, implement the Plans as



accepted by the Board or approved by the Board in writing.

8. The Licensee shall, within thirty (30) days of notification or within the timeframe specified by the Board, submit for review and/or the Board's approval revisions to any plan that is unacceptable to the Board.
9. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of the Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board shall also become part of the Licence. All relevant terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
10. The Licensee shall review the Plans referred to in this Licence as required by changes in operation and/or technology and modify the Plans accordingly. Revisions to any Plan shall be submitted in the form of an addendum to be included within the Annual Report required under Part B, Item 1, complete with the lists of revisions detailing where significant content changes are made.
11. The Licensee shall immediately report to the NWT/NU 24-Hour Spill Report Line (867-920-8130) any spills of Waste associated with the Undertaking under this Licence, including the Water Treatment and Supply Facility and Wastewater Treatment Facilities, which are reported to or observed by the Licensee.
12. Any communication with respect to this Licence shall be made in writing to the attention of:
  - a) **Manager of Licensing**  
Nunavut Water Board  
P. O. Box 119  
Gjoa Haven, NU X0B 1J0  
Telephone: (867) 360-6338  
Fax: (867) 360-6369  
Email: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)
  - b) **Inspector Contact:**  
Water Resources Officer  
Nunavut District, Nunavut Region  
P.O. Box 100  
Iqaluit, NU X0A 0H0  
Telephone: (867) 975-4295  
Fax: (867) 979-6445
13. Unless otherwise directed by the Board in writing, the Licensee shall submit, to the Board one (1) electronic copy of all reports, studies, and Plans generated for the works, activities, and undertakings under this Licence. All Reports, studies or Plans submitted to the Board by the Licensee shall include an executive summary in English, Inuktitut, and French.



14. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received by the Board and maintain on file a copy of the acknowledgment of receipt issued by the Manager of Licensing or his/her designate.
15. This Licence is assignable as provided for in section 44 of the Act.
16. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.
17. The Schedules attached to this Licence provide details regarding the requirements associated with specific items in the main body of the Licence and are included in the Schedule to provide greater clarity and as an aid to interpretation for the Licensee. If the Board subsequently determines that an item in any of the Schedules requires revision in order to better reflect the intent and objectives of the Licence, the Board may at its discretion, and upon consulting and providing written notice to the Licensee and interested parties, revise the Schedule accordingly. Unless the Board directs otherwise, such revision may not necessarily be considered as an “Amendment” to the Licence.
18. Unless otherwise stated, references in the Licence to any specific legislation, policy, guideline or other regulatory requirement is deemed to refer to the regulatory requirement as may be amended or as may be expressly replaced by successor legislation, policy, guidelines or other regulatory requirements after the Licence is approved by the Minister.

**PART C: CONDITIONS APPLYING TO SECURITY**

1. The Licensee is not required to post reclamation security for the activities, works, and undertakings authorized under this Licence.

**PART D: CONDITIONS APPLYING TO THE USE OF WATERS AND WATER MANAGEMENT**

1. The Licensee shall withdraw Water for the Undertaking from Upper Dumbell Lake at Monitoring Program Station No. ALT-1, using the Water Treatment and Supply Facility, or as otherwise approved by the Board in writing.
2. The annual quantity of Water used for all purposes from the Upper Dumbell Lake shall not exceed eight hundred and seventy five (875) cubic metres per day, or as otherwise approved by the Board in writing.
3. Streams and rivers cannot be used as a water source unless authorized and approved by the Board in writing.



4. If the Licensee requires water in sufficient volume that the source water body may be drawn down the Licensee shall, at least thirty (30) days prior to commencement of use of water, submit to the Board for approval in writing, the following: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.
5. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw water at a rate such that fish do not become impinged on the screen.
6. The Licensee shall not remove any material from below the ordinary High Water Mark of any Water body unless otherwise approved by the Board in writing.
7. The Licensee shall not cause erosion to the banks of any body of Water and shall provide the necessary controls to prevent such erosion.
8. The Licensee shall implement necessary measures to control sediment and erosion prior to and during operations to prevent entry of sediments into Water.
9. The Licensee shall maintain the Water Treatment and Supply Facility in accordance with applicable guidelines, procedures, and regulations and to the satisfaction of an Inspector.
10. The Licensee shall submit for Board approval an interim Water Management Plan, by March 31, 2020, of the year following Licence issuance, that covers current Water use practices and address intervener’s comments and recommendations made during the licensing process.
11. The Licensee shall submit for Board approval an updated version of the Water Management Plan, by March 31, 2021, containing specific information on the water circulation and freeze prevention system, and that includes a site water balance, and addresses intervener’s comments and recommendations made during the licensing process.

**PART E: CONDITIONS APPLYING TO THE DEPOSIT OF WASTE AND WASTE MANAGEMENT**

1. The Licensee shall locate areas designated for waste disposal at a minimum distance of thirty one (31) metres from the ordinary high water mark of any water body such that the quality, quantity or flow of water is not impaired, unless otherwise approved by the Board in writing.
2. The Licensee shall direct all Sewage to the Wastewater Treatment Facilities, or as otherwise approved by the Board in writing. Upon commissioning of the packaged Wastewater Treatment Plant (WWTP), the Licensee shall direct all Sewage to the WWTP, and direct all treated effluent from the WWTP to the Terrace Wetland Treatment Area prior to discharge to Parr Inlet, unless otherwise approved by the Board in writing.
3. The Licensee shall establish/maintain the relevant monitoring stations for the facilities authorized under this Licence in accordance with [Schedule I](#).





- | Parameter                    | Maximum concentration of Any Grab Sample |
|------------------------------|--|
| BOD <sub>5</sub>             | 80 mg/L                                  |
| pH                           | Between 6 and 9                          |
| Total Suspended Solids (TSS) | 70 mg/L                                  |
| Oil and grease               | 5 mg/L and no visible sheen              |

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Program Stations ALT-8, ALT-9, ALT-10, ALT-11, and ALT-12 shall not exceed the following Effluent quality limits:

Parameter	Maximum concentration of Any Grab Sample
Benzene (µg/L)	370
Toluene (µg/L)	2
Ethylbenzene (µg/L)	90
Lead (µg/L)	1
Oil and Grease (mg/L)	15 and no visible sheen
Phenols (µg/L)	20

13. Water from the Fuel Storage Facilities and the Landfarm, that is acceptable for discharge under Part E, Item 12, may be released on land at a location as per Part E, Item 1, or as otherwise designated by an Inspector.
14. If Effluent does not meet the Effluent quality limits of Part E, Item 12, it shall be considered Hazardous Waste and disposed off-site at an approved facility.
15. The Licensee shall provide at least ten (10) days notice to an Inspector, of the intent to discharge Effluent from the Fuel Storage Facilities or the Landfarms.
16. The Licensee shall dispose of combustible Waste in an incinerator designed for this purpose that meets the requirements of the Canada-Wide Standards for Dioxins and Furans and Canada-Wide Standards for Mercury emissions or other standards as they become available.
17. The Licensee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood in order to prevent the deposition of Waste materials (e.g. products of incomplete combustion, leachate from contaminated ash residual, etc.) from impacting any surrounding Waters, unless otherwise approved by the Board in writing.
18. The Licensee shall dispose of, and contain, all solid waste generated by the Project at the Solid Waste Management Facilities, or as otherwise approved by the Board in writing.
19. The Licensee shall implement measures to prevent hazardous materials and/or leachate from the Solid Waste Management Facilities from entering water, and shall control surface runoff from the Solid Waste Management Facilities.
20. The Licensee shall maintain the licensed facilities to the satisfaction of an Inspector.
21. The Licensee shall remove from the site associated with the Undertaking, all Hazardous Wastes generated by the project, for disposal at a licensed waste disposal facility.
22. The Licensee shall maintain records of all Waste removed from site and records of confirmation of proper disposal of removed Waste. These records shall be made available to an Inspector or the Board upon request.



**PART F: CONDITIONS FOR CONSTRUCTION, OPERATIONS AND MAINTAINENCE**

1. The Licensee shall, submit to the Board for review, sixty (60) days prior to commencing construction of any facilities or infrastructure authorized under this Licence, for-construction designs and drawings, signed and stamped by an Engineer.
2. The Licensee shall, submit to the Board for review, within ninety (90) days of completion of any structure authorized under this Licence, to contain, withhold, divert or retain Water or Wastes; a construction summary report prepared by an Engineer that includes, among other relevant information, as-built drawings, documentation of field decisions that deviated from original plans, and any data used to support these decisions.
3. The Licensee shall implement measures to ensure that all materials used in the construction of relevant facilities or infrastructure included under the scope of this Licence are free of contaminants, to the extent that they do not cause harmful or significant effects to Water.
4. The Licensee shall, if contamination of surface and/or ground water is encountered during construction and excavation, notify the Inspector immediately and implement the Spill Contingency Plan.
5. The Licensee shall develop and implement measures necessary to prevent and mitigate erosion and/or the release of sediment into Water during the construction of the packaged Wastewater Treatment Plant or during any construction activities associated with the Undertaking.
6. The Licensee shall implement the *Operation and Maintenance Plan, CFS Alert (ALT), Nunavut*, dated February 2015, as approved by the Board.
7. The Licensee shall not store material on the surface or banks of frozen streams or lakes except what is for immediate use.
8. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.
9. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any water body is prohibited. These materials shall be disposed of at a distance of at least thirty one (31) metres from the ordinary high water mark and in such a fashion that they do not enter the water.
10. The Licensee shall ensure that any chemicals, petroleum products or wastes associated with the project do not enter water. All sumps and fuel caches shall be located at a distance of at least thirty one (31) metres from the ordinary high water mark of any adjacent water body and inspected on a regular basis.



11. The Licensee shall ensure that any equipment maintenance and servicing be conducted only in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other waste and contain potential spills.
12. An inspection of all engineered facilities related to the management of water and waste shall be carried out every five (5) years, in July or August, by a Geotechnical Engineer. The Engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing each of the Engineer's recommendations.
13. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.

#### **PART G: CONDITIONS APPLYING TO MODIFICATIONS**

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water Treatment and Supply Facility and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
  - a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
  - b. such Modifications are consistent with the NPC Land Use Planning Conformity Determination and the NIRB Screening Decision;
  - c. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
  - d. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
  - e. The Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met can be carried out only with written approval from the Board.
3. The Licensee shall provide as-built plans and drawings of modifications to any facility and construction of all new facilities at the CFS Alert Project, to the Board within ninety (90) days of completion of the modification and/or construction. These plans and drawings shall be stamped and signed by an Engineer.

#### **PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING**

1. The Licensee shall implement the *Spill Contingency Plan, Canadian Forces Station Alert (ALT), Nunavut*, dated January 2014, as approved by the Board.



2. The Licensee shall submit to the Board for review in writing, within sixty (60) days of the Minister's approval of this Licence, an updated Spill Contingency Plan. The updates shall address interveners' comments and recommendations made during the licensing process, including the following:
  - a. updates to CIRNA contact information;
  - b. include the CIRNA Inspector as a recipient of any CFS Alert Spill Report; and
  - c. to include a section specific to fuel management.
3. The Licensee shall, subject to section 16 of the *Regulations*, report any unauthorized deposits of Waste or foreseeable unauthorized deposits of Waste and/or Discharges of Effluent, and:
  - a. Employ, as required, the approved Spill Contingency Plan;
  - b. Report the incident immediately via the NWT/NU 24-Hour Spill Reporting Line (867) 920-8130 and to the Inspector at (867) 975-4295; and
  - c. For each spill occurrence, submit a detailed report to the Inspector and to NWB, no later than thirty (30) days after initially reporting the event. The report shall include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain, clean up and restore the spill site.
4. The Licensee shall, in addition to Part H, Item 3, regardless of the quantity of release of a harmful substance, report to the NWT/NU 24-Hour Spill Reporting Line if the release is near or into a Water body.

#### **PART I: CONDITIONS APPLYING TO MONITORING**

1. The Licensee shall monitor the relevant Water Treatment and Supply Facility and Waste Disposal Facilities authorized under this Licence in accordance with requirements included under Schedule I.
2. The Licensee shall determine, in consultation with the Inspector, the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where wastes associated with operations and maintenance operations are deposited and have been deposited. Locations shall be reported in the Annual Report.
3. The Licensee shall measure and record in cubic metres at Monitoring Program Station ALT-1, the daily, monthly, and annual quantities of water utilized for all purposes.
4. The Licensee, for the purposes of determining flow and monitoring requirements under Part I, Items 5 and 6, carry out bi-weekly inspections of the facilities at a minimum, during the months of June, July, August and September. Inspection records shall be maintained for review upon request of an Inspector or the NWB.



5. The Licensee shall during periods of flow at Monitoring Program Station ALT-2 analyze samples bi-weekly from the Wastewater Treatment Facilities for the purpose of characterizing Wastewater quality and volumes, including variability.
6. The Licensee shall during periods of flow at Monitoring Program Station(s) ALT-3 and/or ALT-13, analyze samples bi-weekly from the Wastewater Treatment Facilities for demonstrating compliance with the parameters listed under Part E, Item 4.
7. The Licensee shall analyze samples collected annually during periods of runoff or seepage at Monitoring Program Stations ALT-4, ALT-5, ALT-6 and ALT-7. Samples are to be analyzed for the parameters outlined in [Schedule I](#):
8. The Licensee shall measure and record the volume of all soil, from all locations entering the Landfarms at Monitoring Program Stations ALT-11 and ALT-12.
9. The Licensee shall assess and record the concentration of petroleum hydrocarbon contaminated soil entering the Landfarms (ALT-11 and ALT-12) from all sources, as per the CCME *Canada-Wide Standard for Petroleum Hydrocarbons in (PHC) in Soil*.
10. The Licensee shall analyze samples, prior to the release of Wastewater from the Fuel Storage Facilities and the Landfarms, at Monitoring Program Stations ALT-8, ALT-9, ALT-10, ALT-11, and ALT-12 respectively, for the purpose of demonstrating compliance with the parameters and limits listed under Part E, Item 12.
11. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board in writing.
12. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
13. The Licensee shall implement the *Quality Assurance (QA) and Quality Control (QC) Plan, CFS Alert (ALT), Nunavut*, dated January 2015, as accepted by the Board.
14. Any updates to the QA/QC Plan shall include up-to-date field sampling methods to all applicable standards, acceptable to an accredited laboratory as required by Part I, Item 11 and Part I, Item 12, and include a covering letter from the accredited laboratory confirming acceptance of the Plan for analyses to be performed under this Licence.
15. The Licensee shall annually review the QA/QC Plan submitted under Part I, Item 13 and modify it as necessary. Revised Plan shall be submitted to the NWB with an approval letter from an accredited lab that meets standards set in Part I, Item 11 and Part I, Item 12.
16. The Licensee shall include all of the data and information required by the Monitoring Program under [Schedule I](#) within the Annual Report required under Part B, Item 1 of the Licence or as otherwise requested by an Inspector and/or the Board.



17. Additional Monitoring may be requested by the Board and/or the Inspector.
18. The Monitoring Program and compliance dates specified in the Licence may be modified at the discretion of the Board in writing and do not necessarily constitute an Amendment to the Licence as defined in the *Act*.

**PART J:        CONDITIONS APPLYING TO CLOSURE AND RECLAMATION**

1. The Licensee shall submit to the Board for approval in writing, at least six (6) months prior to commencing the decommissioning of a facility, a Final Closure and Reclamation Plan prepared by an Engineer in accordance with the "Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories (1990)," and industry's best practices.
2. The Licensee shall, for the Plan required under Part I, Item 1, include a presentation of data and a discussion of environmental conditions existing before the use of the site by the Licensee, as well as remediation objectives.
3. The Licensee shall revise the Plan referred to in Part J, Item 1, if not approved. The revised Plan shall be submitted to the Board for approval within thirty (30) days of receiving notification of the Board's decision.
4. The Licensee shall complete the restoration work within the time schedule specified in the Plan, or as subsequently revised and approved by the Board.
5. Areas that have been contaminated by hydrocarbons shall be reclaimed to meet objectives as outlined in the Government of Nunavut's Environmental Guideline for Site Remediation, January 2002. The use of reclaimed soils from the Soil Remediation Facility may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.
6. The Licensee shall submit to the Board for approval in writing, within twelve (12) months of the Minister's approval of this Licence, the reclamations options analysis for historical waste deposit sites no longer in use at the CFS-Alert Project, as discussed throughout the licensing process.





## **SCHEDULES**

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**Schedule A:** Scope, Definitions, and Enforcement

**Schedule B:** General Conditions

**Schedule C:** No Schedule for Security

**Schedule D:** No Schedule for Use of Water and Water Management

**Schedule E:** No Schedule for Deposit of Waste and Waste Management

**Schedule F:** No Schedule for Operations and Maintenance

**Schedule G:** No Schedule for Modifications

**Schedule H:** No Schedule for Spill Contingency Planning

**Schedule I:** Monitoring

**Schedule J:** No Schedule for Closure and Reclamation





## **Schedule A: Definitions**

In this Licence 8AC-ALT1929:

“**Abandonment**” means the permanent dismantlement of a facility so it is permanently incapable of its intended use. This includes the removal of associated equipment and structures;

“**Act**” means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Addendum**” means the supplemental text that is added to a full plan, manual, or report, usually included at the end of the document and is not intended to require a full resubmission of the revised report. It may also be considered as an appendix or supplement;

“**Amendment**” means a change to any terms and conditions of this Licence through application to the NWB, requiring a change, addition, or deletion of specific terms and conditions of the Licence not considered as a Modification;

“**Annually**” means, in the context of monitoring frequency, one sampling event occurring every 365 days with a minimum of 200 days between sampling events;

“**Application**” means, for the purposes of this Licence, the totality of the NWB Public Register opened as a result of the filing of the application to replace and amend expired Water Licence No: 3BC-ALT1015;

“**Appurtenant Undertaking**” means an undertaking in relation to which a use of water or a deposit of waste is permitted by a licence issued by the Board;

“**Board**” means the Nunavut Water Board established under Article 13 of the *Nunavut Agreement* and under section 14 of the Act;

“**Discharge**” means the release of any Water or Waste to the receiving environment;

“**Effective Date**” means the date on which the Minister of Crown-Indigenous Relations and Northern Affairs approves the Licence;

“**Effluent**” means treated or untreated liquid Waste material that is Discharged into the environment from the site water management facilities such as a settling pond or a treatment plant;

“**Engineer**” means a professional engineer registered to practice in Nunavut in accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

“**Engineered Structure**” means any facility, designed and approved by an Engineer;



**“Fuel Storage Facilities”** means Lower/Airfield Fuel Tank Farm, comprising of four 242,500L Diesel Fuel Arctic tanks located at the airfield and associated piping to the Upper Fuel Tank Farm comprised of the eight 457,900L tanks and associated piping, which feed a 30,500L Day Fuel Tank Farm, as described in the Application.

**“Grab Sample”** means an undiluted quantity of material collected at a particular time and place that may be representative of the total substance being sampled at the time and place it was collected;

**“Greywater”** means the component of Effluent produced from domestic use (i.e. washing, bathing, food preparation and laundering), excluding Sewage;

**“Hazardous Waste”** means materials or contaminants categorized as dangerous goods under the *Transportation of Dangerous Good Act* (1992), no longer used for their original purpose and intended for recycling, treatment, disposal or storage at appropriate facilities;

**“High Water Mark”** means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. *Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities*);

**“Inspector”** means an Inspector designated by the Minister under section 85 (1) of the Act;

**“Landfarms”** means lined, engineered areas designed to contain and treat hydrocarbon impacted sediment and soil generated by the CFS-Alert Project using bioremediation, including the Airfield Landfarm and the Day Fuel Tank Landfarm;

**“Landfills”** means the Solid Waste Management Facilities that are designed to manage solid waste generated by the CFS-Alert Project.

**“Licence”** means this Type “A” Water Licence No: 8AC-ALT1929, issued by the Nunavut Water Board to the Department of National Defence in accordance with the Act;

**“Licensee”** means the entity to whom Licence No: 8AC-ALT1929 is issued or assigned;

**“Management Plan”** means a well thought out strategy for accomplishing a specific objective, provided in the form of a stand alone written document or as part of a larger integrative Management Plan;

**“Metal and Hazardous Waste Storage Area”** means the area within the Solid Waste Management Facility where metal and hazardous waste is stored as described in the Water Licence Application dated May 10, 2017;

**“Minister”** means the Minister of Crown-Indigenous Relations and Northern Affairs (CIRNA);



“**Modification**” means an alteration to a physical work that may introduce a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

“**Monitoring Program**” means the program to collect data on surface water and groundwater quality to assess impacts to the environment of an appurtenant undertaking;

“**Monthly**” means, in the context of monitoring frequency, one sampling event occurring within calendar month with a minimum of twenty-one (21) days between sampling events;

“**Nunavut Agreement**” means the “*Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*,” including its preamble and schedules, and any Amendments to that agreement made pursuant to it;

“**Quality Assurance / Quality Control (QA/QC)**” Quality Assurance means the system of activities designed to better ensure that quality control is done effectively; Quality Control means the use of established procedures to achieve standards of measurement for the three principle components of quality: precision, accuracy and reliability;

“**Regulations**” means the *Nunavut Waters Regulations* (SOR/2013-669);

“**Sewage**” means all Toilet Wastes and Greywater;

“**Sewage Outfall**” means the location and method of untreated Sewage discharge directly to the land prior to the treatment by Sewage Treatment Facilities;

“**Solid Waste Management Facilities**” means the landfill facilities including the Battery Dump, Millionaire’s Dump, Dump 3, HazMat Barrel Compound, and the Main Station Landfill as described in the Application;

“**Spill Contingency Plan**” means a Plan developed to deal with unforeseen petroleum and hazardous materials Discharge events that could result during the operations conducted under the Licence;

“**Surface Drainage**” means all surface waters resulting from the flow over, through or out of an operations area and is collected by means of Engineered structures;

“**Toilet Wastes**” means all human excreta and associated products, but does not include Greywater;

“**Treatment Objective**” means the treatment objective for the Landfarm which is based on the Canadian Council of Ministers of the Environment (CCME), 2001 Canada – Wide Standard for Petroleum Hydrocarbon in Soil, for Industrial land use; or as determined by the Government of Nunavut, Environmental Protection Service based on the 2002 Environmental Guideline for Site Remediation;



“**Type A Soil**” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of lubricating oil and grease;

“**Type B Soil**” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of fuel oil and/or diesel fuel and /or gasoline;

“**Undertaking or Undertakings**” means an undertaking or undertakings in respect of which Water is to be used or Waste is to be deposited, as classified in Schedule 1 of the *Regulations*;

“**Use**” means use as defined in section 4 of the Act;

“**Waste**” means Waste as defined in section 4 of the Act;

“**Waste Disposal Facilities**” means the Sewage Outfall, Sewage Treatment Facility, Wastewater Treatment Facilities, Solid Waste Disposal Facilities and the Landfarms;

“**Wastewater**” means the water generated by site activities or originates on-site that requires treatment or any other water management activity;

“**Wastewater Treatment Facilities**” means the Terrace Wetland Treatment Area, proposed packaged Wastewater Treatment Plant, and associated facilities authorized under this Licence;

“**Wastewater Treatment Plant (WWTP)**” means the proposed packaged wastewater treatment plant that is designed for the containment and treatment of Sewage generated by the CFS-Alert Project as described in the Application;

“**Water or Waters**” means water as defined in section 4 of the Act;

“**Water Treatment and Supply Facility**” means the engineered facilities and appurtenances designed and constructed for the withdrawal, storage, treatment and distribution of fresh water for domestic purposes, as described in the Application.

“**Terrace Wetland Treatment Area (TWTA)**” means the treatment method of the Engineered Facility, as described in the Application, which includes a number of boxed/wetland terraces and berms designed to increase the sewage flow travel length and retention time, providing improved treatment.



## **Schedule B: Annual Reporting Requirements**

The Annual Report referred to in Part B, Item 1, shall include the following:

- a. The daily, monthly and annual quantities in cubic metres of fresh Water withdrawn from the Upper Dumbell Lake at Monitoring Program Station No. ALT-1;
- b. The monthly and annual quantities in cubic metres of any Discharges to the Wastewater Treatment Facilities at Monitoring Stations ALT-2, ALT-3, and ALT-13;
- c. Quality of the runoff from the Solid Waste Management Facilities and Fuel Storage Facilities at Monitoring Program Stations: ALT-4, ALT-5, ALT-6, ALT-7, ALT-8, ALT-9, ALT-10, ALT-11, and ALT-12;
- d. The monthly and annual quantities in cubic metres of sludge removed from the Wastewater Treatment Facilities;
- e. The monthly and annual quantities of Wastes disposed of at the Solid Waste Disposal Facilities;
- f. A summary report which includes all data and information generated under the Monitoring Program, including the QA/QC program, in electronic and printed formats acceptable to the Board;
- g. A summary of modifications, construction activities, and/or major maintenance work carried out on the potable Water Treatment and Supply Facilities and Waste Disposal Facilities, including all associated structures;
- h. Any revisions required, in the form of addenda, to Plans, Manuals and Reports approved under the Licence;
- i. A list and description, including volumes, of all unauthorized Discharges, spills and summaries of follow-up action taken;
- j. A summary of any closure and reclamation work undertaken and an outline of any work anticipated for the next year, including any changes to implementation and scheduling;
- k. A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector;
- l. A brief update on the implementation plan of all facilities within the scope of this Licence including changes to projected implementation;
- m. A summary of any studies, reports and plans requested by the Board that relate to Water use, Waste disposal, and reclamation and a brief description of any future studies planned including, a non-technical executive summary for the general public, translated into Inuktitut; and
- n. Any other details on the use of Water or Waste disposal requested by the Board by November 1<sup>st</sup> of the year being reported.



**Schedule I: Conditions Applying to Monitoring**

**Table 1 – Water Quality Parameters**

Test Group	Analytical Parameter	Unit of Measurement
Flow (F)	Volume	m <sup>3</sup>
General (G)	pH (field and lab)	NA
	Conductivity (field and lab)	uS/cm
	Temperature (field)	°C
	Total Suspended Solids (TSS)	mg/L
	Oil and Grease	mg/L
	Nitrate-Nitrite	mg/L
	Ammonia Nitrogen	mg/L
	Sulphate	mg/L
	Total Hardness	mg/L
	Total Alkalinity	mg/L
	Total Phenols	mg/L
	Total Organic Carbon - TOC	mg/L
Metals (M) ICP Scan for Total Metals	Al, Ar, As, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Na, Ni, Pb, Zn	mg/L
Sewage (S)	Fecal Coliform	CFU/100 mL
	Biochemical Oxygen Demand	mg/L
	Chloride	mg/L
Hydrocarbon (H)	TPH (Total Petroleum Hydrocarbons) PAH (Polycyclic Aromatic Hydrocarbons) BTEX (Benzene, Toluene, Ethylbenzene, Xylene)	mg/L



**Table 2 - Water Quality Monitoring Program Stations**

Station ID	Description	Status	Parameter	Monitoring Frequency
ALT-1	Water Supply at Raw Water Intake (or Pumphouse)	Active	F	Daily
ALT-2	Discharge Point at the Sewage Outfall (prior to treatment)	Active	F, G, M, S	Bi-Weekly
ALT-3	Final Discharge Point of the Wastewater Treatment Facilities at weir box or similar structure, prior to entry into Parr Inlet	Active	F, G, M, S	Bi-Weekly
ALT-4	Runoff and leachate from the Main Station Landfill	Active	F, G, M	When discharge occurs
ALT-5	Runoff and leachate from the Battery Dump	Active	F, G, M	When discharge occurs
ALT-6	Runoff and leachate from the Millionaire’s Dump	Active	F, G, M	When discharge occurs
ALT-7	Runoff and leachate from Dump 3	Active	F, G, M	When discharge occurs
ALT-8	Discharge from Lower/Airfield Fuel Tank Farm secondary containment	Active	F, G, M, H	When discharge occurs
ALT-9	Discharge from Upper Fuel Tank Farm secondary containment	Active	F, G, M, H	When discharge occurs
ALT-10	Discharge from Day Fuel Tank Farm secondary containment	Active	F, G, M, H	When discharge occurs
ALT-11	Discharge from the Airfield Landfarm	Active	F, G, M, H	When discharge occurs
ALT-12	Discharge from the Day Fuel Tank Landfarm	Active	F, G, M, H	When discharge occurs
ALT-13	Final Discharge Point from the Wastewater Treatment Plant	Active once operational	F, G, M, S	Bi-Weekly