



P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel: (867) 360-6338
Fax: (867) 360-6369

ᓄᓇᓂᓪ ᐃᓕᓕᓂᓪ ᑲᑎᓚᓪᓴᓪ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: **1BR-LOR0813**

May 16, 2008

c/o Director, Contaminated Sites Program
Indian and Northern Affairs Canada
PO Box 2200
Iqaluit, NU X0A 0H0

RE: NWB LICENCE No. 1BR-LOR0813

Dear Sir:

Please find attached Licence No. **1BR-LOR0813** issued to Indian and Northern Affairs Canada by the Nunavut Water Board **Motion #: 2008-04** pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*. The terms and conditions of the attached Licence related to water use and waste disposal are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then water use and waste disposal must cease, or the Licensee will be in contravention of the Nunavut Land Claims Agreement. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least three months prior to the Licence expiry date.

If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment process. The process and timing may vary depending on the scope of the amendment, however a minimum of thirty (30) days is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and acknowledged by the Manager of Licensing.

NWB strongly recommends that the Licensee consult the comments received by interested persons on issues identified. The NWB notes that, among others, there is a NIRB Decision requirement to install and operate an incineration device capable of meeting emission limits established under the *Canada-wide Standards (CWS) for Dioxins and Furans* and the *CWS for Mercury Emissions*. This information is attached for your consideration

Sincerely,

A handwritten signature in dark ink, appearing to read 'T. Kabloona', with a long horizontal flourish extending to the right.

Thomas Kabloona
A/Chief Administrative Officer

DF/dh/pb

Enclosure: Licence No. **1BR-LOR0813**
Comments: GN DoE, INAC and NIRB

Cc: Qikiqtani Distribution List



P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel: (867) 360-6338
Fax: (867) 360-6369

ᓄᓇᓂᓪ ᐃᓕᓕᓂᓪ ᑲᓂᓕᓂᓪ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

DECISION

LICENCE NUMBER: 1BR-LOR0813

This is the decision of the Nunavut Water Board (NWB) with respect to an application for a new Licence dated February 12, 2007 made by:

INDIAN AND NORTHERN AFFAIRS CANADA (INAC)

to allow for the use of water and disposal of waste during camp operations and site remediation activities at the Cape Christian Long Range Navigation (LORAN) Station site, which is located approximately 16 km northeast of the Hamlet of Clyde River within the Qikiqtani Region, Nunavut, at general latitude 70°31'17" and general longitude 68°17' 56"W.

DECISION

After having been satisfied that the application was in conformity with the North Baffin Regional Land Use Plan and exempt from the requirement for screening by the Nunavut Impact Review Board in accordance with Schedule 12.1, Paragraph 5 of the *Nunavut Land Claim Agreement* (NLCA), the NWB decided that the application could proceed through the regulatory process. In accordance with S.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRA) and Article 13 of the NLCA, public notice of the application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the NLCA and of the NWNSTRA, decided to waive the requirement to hold a public hearing and determined that:

Licence Number 1BR-LOR0813 be issued subject to the terms and conditions contained therein. (Motion #: 2008 - 04)

SIGNED this 30th day of April 2008 at Gjoa Haven, NU.

Thomas Kabloona, A/Chief Administrative Officer

TABLE OF CONTENTS

DECISION.....	I
TABLE OF CONTENTS	III
A. TERM OF THE LICENCE	2
B. WATER USE	2
C. DEPOSIT OF WASTE	2
D. ANNUAL REPORT.....	3
E. SPILL CONTINGENCY PLANNING.....	3
F. ABANDONMENT AND RESTORATION (A&R).....	4
LICENCE 1BR-LOR0813.....	5
PART A: SCOPE, DEFINITIONS AND ENFORCEMENT	6
PART B: GENERAL CONDITIONS	9
PART C: CONDITIONS APPLYING TO WATER USE.....	12
PART D: CONDITIONS APPLYING TO WASTE DISPOSAL	12
PART E: CONDITIONS APPLYING TO THE UNDERTAKING.....	15
PART F: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS	17
PART G: CONDITIONS APPLYING TO DRILLING OPERATIONS	17
PART H: CONDITIONS APPLYING TO MODIFICATIONS	18
PART I: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING	19
PART J: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION	20
PART K: CONDITIONS APPLYING TO THE MONITORING PROGRAM.....	20

I. INTRODUCTION

The Cape Christian Long Range Navigation (LORAN) Station site is located at the mouth of the Clyde River on the northeast coast of Baffin Island, approximately 16 km northeast of the Hamlet of Clyde River, within the Qikiqtani Region, Nunavut, at the general latitude of 70°31'17" and general longitude 68°17'56"W.

The Cape Christian LORAN site, which was operated by the United States Coast Guard from 1954 until 1974, has been determined to be surplus, and accordingly operations on the site have ceased. As has been the practice at similar DEW line facilities, a detailed site investigation was undertaken prior to the commencement of remediation activities. This site assessment took place between 1974 and 2006, and based on this assessment, a comprehensive site remediation work plan and reference document, *Former U.S. Coast Guard LORAN Station, Cape Christian, Nunavut, Remedial Action Plan, dated January 2007 (RAP)* has been developed whereby remediation options for each waste stream identified at the site have been proposed, and critically evaluated, to discuss potential risks, advantages and disadvantages of each remediation option. The Remedial Action Plan (RAP) has been designed to meet cleanup objectives, in accordance with the *INAC Abandoned Military Site Remediation Protocol, March 2005* as follows:

- Restore the site to an environmentally safe condition;
- Prevent the migration of contaminants into the Arctic ecosystem;
- Remove physical hazards for the protection of human health and safety; and
- Implement a cost effective remediation solution.

The Cape Christian LORAN Site remediation is scheduled to occur between 2007 and 2010, and will include the following activities:

- Mobilization of equipment, materials and personnel to site;
- Enhancement of site access routes – from Clyde River to Cape Christian;
- Site roads improvement;
- Airstrip improvement (if required);
- Sealift landing site (if required);
- Camp set-up and operation;
- Quarrying of gravel and overburden materials;
- Landfill construction and closure;
- Land farm cell construction and decommissioning;
- Hazardous material removal, handling and transportation;
- Temporary storage on site for hazardous materials, equipment and fuels;
- Building and infrastructure demolition;
- Debris consolidation and disposal;
- Excavation and relocation of PHC contaminated soils to the Land farm cell;
- Excavation and removal of metals and PCB contaminated soils from site;
- Site grading;

- Demobilization of equipment, materials/wastes and personnel and;
- Site monitoring with long-term monitoring requirements to be assessed after the first five years.

A temporary camp will be set up at the site to facilitate the remediation activities. Upon completion of site remediation, all camp facilities, including equipment and excess fuel, will be removed from the site. Annual site monitoring activities are planned for the first five years after remediation. Long term intermittent monitoring of site landfills, once every five years or as required, will be undertaken upon completion of clean-up activities and continue for 20 years, at which time the Monitoring Program will be re-evaluated.

II. PROCEDURAL HISTORY

On February 12, 2007, an application for a new water licence was filed with the Nunavut Water Board by Indian and Northern Affairs Canada (“INAC”), for water use and waste disposal activities associated with camp operations and site remediation activities at the Cape Christian LORAN site, located approximately 16 km northeast of the Hamlet of Clyde River within the Qikiqtani Region, Nunavut (at general latitude of 70°31’17” and general longitude 68°17’ 56”W).

III. GENERAL CONSIDERATIONS

A. Term of the Licence

In accordance with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* S. 45, the NWB may issue a licence for a term not exceeding twenty-five years. The NWB believes that a term of approximately five (5) years is appropriate. The licence term will allow the Licensee to properly carry out the terms and conditions of the licence and will ensure that sufficient time is given to permit the Licensee to develop, submit and implement the plans required under the licence to the satisfaction of the NWB.

B. Water Use

The camp, which will support remediation activities at the Cape Christian LORAN site, will utilize water from an unnamed river adjacent to the Cape Christian-Clyde River Road. Water requirements for camp operations during the period of the licence are expected to be approximately fifteen (15) m³ *per* day.

Based upon the projected requirements of the Licensee, the Board has set the terms and conditions in the water licence, which govern water usage. The maximum permitted usage of water by the Licensee, over the term of the water licence and for all purposes, has been set at fifteen (15) m³ *per* day.

C. Deposit of Waste

Sewage

The Licensee has indicated that camp sewage and greywater will be discharged to a single-cell lagoon located a minimum of 450 metres from any body of water or any drainage course, or other alternative treatment that will meet the required effluent criteria.

The Board, having duly considered these issues and the submission of the Applicant, has set the terms and conditions in the Water Licence, which govern the disposal of sewage during the proposed undertaking. The Board has considered alternative disposal methods for sewage and grey water within these conditions.

Solid Waste

The Licensee has indicated that camp solid waste will be incinerated and that any non-combustible residual waste will be buried in an on-site landfill. Additionally, pre-existing landfills on the Cape Christian LORAN site will be remediated in accordance with protocols described in the “*Former U.S. Coast Guard LORAN Station, Cape Christian, Nunavut Remedial Action Plan (January, 2007)*”. Non-hazardous waste will be placed in appropriately designed engineered landfills. Soils designated as hazardous under the *Canadian Environmental Protection Act* (CEPA; 1999), as well as materials coated with PCB amended paint, will be disposed of in approved off-site facilities.

The Licensee is required, under Part E, Item 2, to submit detailed information on the decommissioning of the water reservoir, design and construction drawings of the proposed Solid Waste Disposal Facility prior to construction.¹

The Board, having duly considered these issues and the submission of the Applicant, has set the terms and conditions in the water licence, which govern the disposal of solid waste during the proposed undertaking accordingly.

D. Annual Report

The requirements imposed on the Licensee in this Licence are for the purpose of ensuring that the NWB has an accurate annual update of water use and depositions of waste during a calendar year. This information is maintained on the public registry and is available to any interested persons upon request. The requirements of this Annual Report can be found in Part B, Item 1

E. Spill Contingency Planning

The Board generally requires that all Licensees prepare a comprehensive Spill Contingency Plan to establish a state of readiness to ensure a prompt and effective response to possible spills or system failure events. The site-specific Spill Contingency Plan will assist the Licensee in

¹ NIRB Screening Decision Report, File No.:07DN027, Item 13.

responding to emergencies such that the impacts to water in particular and the environment and public health in general are minimized. The applicant has submitted a “*Preliminary Fuel Containment and Spill Contingency Plan (January, 2007)*” on February 12, 2007 and will be required to submit a site specific Plan. The requirement for this Plan is detailed under Part I.

F. Abandonment and Restoration (A&R)

To ensure that all facilities are reclaimed in an appropriate manner upon abandonment, the NWB requires Licensees to prepare and submit an Abandonment and Restoration Plan. The activities proposed under this Licence are for the remediation of the site. The “*Former U.S. Coast Guard LORAN Station, Cape Christian, Nunavut Remedial Action Plan (January, 2007)*” submitted February 12, 2007 by the Licensee have been approved by the Board. Other conditions for restoration have been included under Part J of this Water Licence.

LICENCE 1BR-LOR0813

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

INDIAN AND NORTHERN AFFAIRS CANADA (INAC)

(Licensee)

Of

PO BOX 2200, IQALUIT NUNAVUT, X0A 0H0

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water for a period subject to restrictions and conditions contained within this licence:

1BR-LOR0813

Licence Number

NUNAVUT 05

Water Management Area

CAPE CHRISTIAN LORAN SITE, QIKIQTANI REGION, NUNAVUT

Location

WATER USE AND WASTE DISPOSAL

Purpose

INDUSTRIAL – TYPE “B”

Classification of Undertaking

FIFTEEN (15) CUBIC METRES *PER DAY*

Quantity of Water Not to Exceed

APRIL 30, 2008

Date of Licence

MAY 1, 2013

Expiry Date of Licence

Dated this 30th day of April 2008 at Gjoa Haven, NU.



Thomas Kabloona, A/Chief Administrative Officer

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the use of water and the disposal of waste for an undertaking classified as Industrial at the Cape Christian LORAN site, located approximately 16 km northeast of the Hamlet of Clyde River on the northeast coast of Baffin Island, within the Qikiqtani Region, Nunavut (at general latitude 70°31'17" and general longitude 68°17'56"W):

- i. This Licence is issued subject to the conditions contained herein with respect to the taking of water 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 Nunavut Waters and Nunavut Surface Rights Tribunal Act, or other statutes imposing more stringent conditions relating to the quantity or type of waste that may be so deposited or under which any such waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and;
- ii. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

In this Licence: 1BR-LOR0813

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

“Addendum” means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report.

“Amendment” means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

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

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

“Board” means the Nunavut Water Board established under the *Nunavut Land Claims Agreement*;

“Chief Administrative Officer” means the Executive Director of the Nunavut Water Board;

“Demolition Rinse Wastewater” means water and associated waste generated by the operation of decontamination and decommissioning activities;

“Effluent” means treated or untreated liquid waste material that is discharged into the environment from a structure such as a settling pond or following a treatment process

“Engineer” means a professional engineer registered to practice in Nunavut in accordance with the Engineering, Geological and Geophysical Act (Nunavut) S.N.W.T. 1998, c.38, s.5;

“Final Discharge Point” means the point at which the Licensee no longer exerts care and/or control over the quality and/or quantity of the effluent from a treatment process;

“Greywater” means all liquid wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet wastes;

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

“Landfarm Facility” means an area designed to biologically treat Type B soils, as described in the Application for Water Licence filed by the Applicant on February 12, 2007;

“Licensee” means the individual or organization to which Licence 1BR- LOR0712 Type “B” is issued or assigned;

“Modification” means an alteration to a physical work that introduces 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;

“Hazardous waste” means waste classified as “hazardous” by Nunavut Territorial or Federal Legislation, or as “dangerous goods” under the *Transportation of Dangerous Goods Act* at the time of clean-up;

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

“Nunavut Land Claims Agreement” (NLCA) 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;

“Regulations” means the *Northwest Territories Water Regulations* sor/93-303 8th June, 1993, omitting Section 5, Water Use or Waste Deposit without a Licence;

“Sewage” means all toilet wastes and greywater;

“Sewage Disposal Facility” comprises the area and engineered structures designed to contain and treat sewage;

“Solid Waste” means non-hazardous waste and Type A soil;

“Solid Waste Disposal Facility” comprises the Non-Hazardous Waste Landfill as described in the *Remedial Action Plan, Cape Christian LORAN Site, Clyde River, Nunavut, January 2007*, submitted with the Application filed February 12, 2007 and the *Cape Christian Tender Drawings, March 2007*, designed to contain solid waste and to permanently isolate the contents of the disposal facility from the environment (Drawings C08 and C09);

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

“Sump” means an excavation in impermeable soil for the purpose of catching or storing water or waste;

Tier I Soil means soil containing contaminant concentrations within the types and ranges defined as Dew Line Cleanup Criteria (DCC) Tier I in Appendix B of the *INAC Abandoned Military Site Remediation Protocol, March 2005* (see Table 1);

Tier II Soil means soil containing contaminant concentrations within the types and ranges defined as Dew Line Cleanup Criteria (DCC) Tier II in Appendix B of the *INAC Abandoned Military Site Remediation Protocol, March 2005* (see Table 1);

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

“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;

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

“Waste” means, as defined in S.4 of the *Act*, any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means.

“Water Supply Facilities” comprises the unnamed water supply river adjacent to the Clyde River-Cape Christian Road, and associated infrastructure designed to collect and supply water;

“Waste Disposal Facilities” means all facilities designated for the disposal of waste, and includes the Sewage Disposal Facilities, Solid Waste Disposal Facilities, and Landfarm Facility, as described in the Application for Water Licence filed by the Applicant on February 12, 2007.

3. **Enforcement**

- i. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;
- ii. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and
- iii. For the purpose of enforcing this Licence and with respect to the use of water and deposit or discharge of waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law.

PART B: GENERAL CONDITIONS

1. Licensee shall file an Annual Report on the appurtenant undertaking with the Board no later than March 31st of the year following the calendar year being reported which shall contain the following information:

- i. The monthly and annual quantities (in cubic metres) of fresh water obtained from all sources;
 - ii. The monthly and annual quantities (in cubic meters) of sewage generated;
 - iii. The monthly and annual quantities (in cubic metres) of material deposited in Solid Waste Disposal Facilities;
 - iv. A summary of all waste backhauled for disposal at approved facilities under Part D, Items 4 and 5;
 - v. A summary of any construction work, modification and major maintenance work (including as-built diagrams) carried out on the Water Supply, Solid Waste Disposal Facilities and Sewage Disposal Facility, including all associated structures;
 - vi. Tabular summaries for all data and information generated under the “Monitoring Program”;
 - vii. An analysis of data collected during the “Monitoring Program” and a brief description of any future studies planned by the Licensee;
 - viii. A summary of remediation work undertaken during the year and an outline of work anticipated for the following year;
 - ix. A summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;
 - x. A list of unauthorized discharges and summary of follow-up actions taken;
 - xi. Any revisions to the approved “*Former U.S. Coast Guard LORAN Station, Cape Christian, Nunavut Remedial Action Plan (January, 2007)*”;
 - xii. Any revisions to the site specific Spill Contingency Plan, submitted under Part J, Item 2;
 - xiii. If applicable, a description of any trenches and sumps excavated, including but not limited to the following: GPS coordinates, dimensions, depth below active layer, and secondary containment features;
 - xiv. A public consultation/participation report describing consultation with local organizations and the residents of the nearby communities;
 - xv. A brief summary of work done to address concerns or deficiencies listed in the inspection reports and/or compliance reports prepared by an Inspector;
 - xvi. An executive summary in English and Inuktitut of all plans, reports, or studies conducted under this Licence; and
 - xvii. Any other details on water use or waste disposal requested by the Board by November 1st of the year being reported
2. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this project at least thirty (30) days prior to any such change.
 3. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of water volumes as required by the Monitoring Program under Part K.

4. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
5. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
6. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
7. The Licensee shall, within sixty (60) days of issuance of this Licence, post signs in the appropriate areas identifying the locations of the Water Supply Facilities, Solid Waste Disposal Facilities, Landfarm Facility, and the “Monitoring Program Stations”. All postings shall be in the Official Languages of Nunavut.
8. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. 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@nunavutwaterboard.org
 - (b) **Inspector Contact:**
Water Resources Officer
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4298
Fax: (867) 979-6445
 - (c) **Analyst Contact**
Taiga Laboratories
Department of Indian and Northern Affairs
4601 – 52 Avenue, P.O. Box 1500

Yellowknife, NT X1A 2R3
Telephone: (867) 669-2781
Fax: (867) 669-2718

9. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.
10. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received and acknowledged by the Manager of Licensing.
11. This Licence is not assignable except as provided in Section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain water for all purposes from an unnamed river adjacent to the Cape Christian-Clyde River Road at Monitoring Program Station LOR-1, up to a maximum of fifteen (15) cubic meters per day.
2. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that there is no entrainment of fish and shall withdraw water at a rate such that fish do not become impinged on the screen.
3. The Licensee shall not remove any material from below the ordinary high water mark of any water body.
4. The Licensee shall not do anything that will cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
5. The Licensee shall implement sediment and erosion control measures to prevent the deposition of dust and/or sediment into the Water Supply Lake, arising from contractor activities or on-site vehicular travel.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for waste disposal at a minimum distance of thirty (30) 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 is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an incinerator.

3. The Licensee shall provide to the Board, documented authorization from the community of Clyde River prior to the backhauling of any waste for storage or disposal.
4. The Licensee shall backhaul and dispose of all hazardous wastes, waste oil and non-combustible waste generated through the course of the operation in an approved waste disposal site.
5. The Licensee shall maintain records of all waste backhauled and records of confirmation of proper disposal of backhauled waste and include this information within the Annual Report, Part B, Item 1. These records shall be made available to an Inspector upon request.
6. The Licensee shall direct all sewage to the Sewage Disposal Facility, or alternatively as provided for in Part D, Items 7 or 8, or as otherwise approved by the Board in writing.
7. For any camp with a design population over 300 and less than 2,000 person days per year, and less than 5,000 person days for the life of the camp, the Licensee may dispose of all toilet wastes through incineration, chemical or composting toilets. Any remaining residue generated through the course of the operation shall be backhauled and disposed of in an approved waste disposal site.
8. For any camp with a design population over 300 and less than 2,000 person days per year, and less than 5,000 person days for the life of the camp, the Licensee may contain all greywater in a sump located at a distance of at least thirty (30) metres above the ordinary high water mark of any water body, at a site where direct flow into a water body is not possible and no additional impacts are created, unless otherwise approved by the Board in writing
9. The Licensee shall provide notice to an Inspector at least ten (10) days prior to initiating any decant or discharge from the Sewage Disposal Facilities, Solid Waste Disposal Facility or Land Farm Facility.
10. All waste discharged from the Final Discharge Point of the Sewage Disposal Facility at Monitoring Program Station LOR-2 shall not exceed the following effluent quality limits:

PARAMETER	MAXIMUM AVERAGE CONCENTRATION
BOD	120 mg/L
Total Suspended Solids	180 mg/L
Faecal Coliforms	10,000 CFU/100mL
pH	6.0 to 9.0
Oil and Grease	no visible sheen

11. The Licensee shall collect and temporarily store, in preparation for future disposal, all Demolition Rinse Wastewater from decontamination procedures.
12. All Demolition Rinse Wastewater, water from dewatering contaminated soil areas, contact water within the perimeter of the Land Farm and seepage from the Solid Waste Disposal Facility at Monitoring Program Stations, shall meet the following wastewater discharge limits prior to being released onto land to a location at least thirty (30) metres distance from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created:

Parameter	Maximum Allowable Concentration (µg/L)
pH	6 to 9 (pH units)
Oil and Grease	5000
Arsenic (total)	100
Cadmium (dissolved)	10
Chromium (dissolved)	100
Cobalt (dissolved)	50
Copper (dissolved)	200
Lead (dissolved)	50
Mercury (total)	0.6
Nickel (dissolved)	200
PCB (total)	1000
Phenols	20
Zinc (total)	500

13. If the effluent referred to in Part D, Item 10 and Item 12 does not meet the wastewater discharge limits, it shall be considered hazardous waste and disposed off-site at an approved facility.
14. The discharge location for all treated effluents described in Part D, Items 10 and 12, shall be located at a minimum of thirty (30) metres from the ordinary high water mark of any water body and where direct flow into a water body is not possible and no additional impacts are created.
15. All pump out water from excavation and borrow pits shall be pumped to an area as described in Part D, Item 12, or as otherwise approved by the Board in writing.
16. The Licensee shall provide, proper storage, treatment and disposal at an approved facility for any hazardous waste materials, including waste oil generated through the construction and remediation activities, unless otherwise approved by the Board in writing.
17. The Licensee shall utilize the Solid Waste Disposal Facility for the disposal of all non-hazardous waste and waste generated during site construction and remediation activities,

including Type A soil and contaminated soils that exceed Tier I criteria and are less than Tier II criteria.

18. The Licensee shall dispose of all soils containing substances in excess of Tier II criteria, as indicated in Table No.1, by collection, containment and shipment off-site to a licensed disposal facility.
19. The Licensee shall not mix or blend soils that exceed the maximum levels of Tier II criteria for the expressed purpose of attaining the specific limits of Table No.1.
20. The Licensee shall treat Type B soils in the Land Farm Facility, constructed and operated in a manner in accordance with the Plans contained in the application submitted to the Board by the Licensee on February 12, 2007.
21. The Licensee shall, for the purposes of monitoring impacts to water, install ground water monitoring wells in the vicinity of the constructed Land Farm Facility, at a minimum, of one up-gradient and one down-gradient of the Land Farm Facility, as described in the document “Remedial Action Plan, *Cape Christian LORAN Site, Clyde River, Nunavut, January 2007*.”
22. The Licensee shall dispose of any material coated with Polychlorinated Biphenyl (PCB) - amended paints, hazardous materials and soils containing contaminants in excess of Canadian Environmental Protection Act (CEPA) Guidelines, off site at an approved treatment facility, in accordance with the application submitted to the Board by the Applicant on February 12, 2007.

PART E: CONDITIONS APPLYING TO THE UNDERTAKING

1. The Licensee shall ensure that all borrow material used in construction is obtained from a source approved by an Inspector and shall be clean and free of contaminants.
2. The Licensee shall submit to the Board for approval, within ninety (90) days of the issuance of this Licence, an Operation and Maintenance Manual to encompass facilities being operated at the site including the Sewage Disposal Facility, Solid Waste Disposal Facility and the Land Farm Facility prepared in accordance with the “*Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996*”.
3. The Operations and Maintenance Manual referred to in Part E, Item 2 shall address the following items with respect to the Land Farm component:
 - i. Engineered design drawings of the facility (stamped by a professional engineer registered in Nunavut);

- ii. Feasibility of alternative disposal methods and sites;
 - iii. Operation and maintenance procedures for the facility;
 - iv. Runoff diversion and management;
 - v. Soil Quality Remediation Objectives (SQRO's); and
 - vi. Monitoring program for both water and soil.
-
- 4. The Operations and Maintenance Manual referred to in Part E, Item 2 shall provide closure alternatives for the management of sludge from the Sewage Disposal Facility.
 - 5. The Licensee shall review the Plan referred to in this Part as required by changes in operation and/or technology and modify the Plan accordingly. Revisions to the Plan are to be submitted in the form of an Addendum to be included with the Annual Report.
 - 6. The Licensee shall, upon the failure of any constructed facilities, repair such facilities immediately to the appropriate standards as recommended by an Engineer.
 - 7. The Licensee shall implement proper handling, storage and transportation procedures for hazardous materials during clean-up activities.
 - 8. The Licensee shall minimize disturbance to terrain, permafrost and drainage during extraction of granular material, development and closure of landfills, movement of contractor's equipment and personnel around the site and removal of site debris.
 - 9. The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
 - 10. Sediment and erosion control measures shall be implemented prior to and maintained during the operation to prevent entry of sediment into water.
 - 11. The Licensee shall design and construct all stream crossings to minimize erosion and/or deposition of waste into water.
 - 12. The Licensee shall ensure that existing creek channels are maintained at their normal width and depth to the extent possible, during and after construction.
 - 13. Granular materials and rock rip-rap used for any temporary stream crossings, approaches or as may be required for bank stabilization must be obtained from a source approved by an Inspector, and be clean and free of contaminants. Such material must not be removed or gathered from below the ordinary high water mark of a creek, stream or from any water body.
 - 14. All sites affected by construction or removal activities shall be stabilized, landscaped as necessary, and suitable erosion control measures implemented to minimize sediment

deposition into watercourses located on or adjacent to the site.

15. The Licensee shall restore and stabilize all areas affected by the undertaking upon completion of the work.
16. The Licensee shall not deposit any waste in any body of water, or on the banks thereof, which may impair the quality, quantity, or flow of water.
17. Areas designated for waste disposal shall be located at a minimum of thirty (30) metres from the ordinary high water mark of any body of water, unless otherwise authorized.
18. The Licensee shall dispose of all scrap metal, discarded machinery and parts, and other bulky material in a manner that conforms to the Plans submitted to the Board.

PART F: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.
2. 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.
3. Winter lake and stream crossings, including ice bridges, shall be constructed entirely of water, ice or snow, and shall be removed prior to spring break-up.
4. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into any water body is prohibited. These materials shall be disposed of above the ordinary high water mark in such a fashion that they do not enter the water.

PART G: CONDITIONS APPLYING TO DRILLING OPERATIONS

1. The Licensee shall not conduct any land based drilling within thirty (30) metres of the ordinary high water mark of any water body, unless otherwise approved by the Board in writing.
2. The Licensee is authorized to drill and install monitoring wells in accordance with the requirements as identified in the Application submitted to the Board by the Licensee on February 12, 2007.

3. The Licensee shall not conduct any land based drilling within thirty (30) metres of the ordinary high water mark of any water body, unless otherwise approved by the Board in writing
4. The Licensee shall ensure that all drill waste, including water, chips, muds and salts (CaCl₂) in any quantity or concentration, from land-based drilling, shall be disposed of in a properly constructed sump or an appropriate natural depression located at a distance of at least thirty (30) metres from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created.

PART H: CONDITIONS APPLYING TO CONSTRUCTION AND MODIFICATIONS

1. The Licensee shall provide to the Board for review, prior to construction, a detailed design for the Sewage Disposal Facility, Solid Waste Disposal Facility and Land Farm Facility referred to in this Licence, complete with drawings for construction, signed and stamped by an Engineer. These designs shall consider, siting, operation, monitoring, sampling and analytical methods, decommissioning and closure options and plans for the proposed Facilities.
2. The Licensee shall provide to the Board, within ninety (90) days of completion of construction, as-built plans and drawings of the facilities referred to in this Licence. These plans and drawings shall be stamped by an Engineer. For the solid waste storage facilities that are to remain on site following completion of remediation activities, final As-Built drawings, stamped and signed by an Engineer, shall be submitted to the Board within ninety (90) days of completion.
3. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facilities and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - i. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
 - ii. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
 - iii. 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
 - iv. the Board has not rejected the proposed Modifications.
4. Modifications for which all of the conditions referred to in Part H, Item 1 have not been met can be carried out only with written approval from the Board.

5. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.

PART I: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Board has approved the Plan entitled “*Preliminary Fuel Containment and Spill Contingency Plan*” dated January, 2007 that was submitted with the Application.
2. The Licensee shall submit, thirty (30) days prior to commencing project activities, a site specific Spill Contingency Plan prepared in accordance with the *Spill Contingency Planning and Reporting Regulations* developed under Section 34 of the *Environmental Protection Act*, Nunavut. The Licensee shall take into consideration the comments received by interested parties during the review of the application and shall include contingency measures with respect to a failure or spill from the Sewage Disposal Facility.
3. The Licensee shall review the Plan referred to in this Part as required by changes in operation and/or technology and modify the Plan accordingly. Revisions to the Plan are to be submitted in the form of an addendum to be included with the Annual Report, unless directed otherwise by the Board.
4. 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 a minimum of thirty (30) metres above the ordinary high water mark of any adjacent water body and inspected on a regular basis. The Licensee is encouraged to use some form of secondary containment on fuel and chemical storage facilities associated with this undertaking.
5. 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 fluids, waste and contain potential spills.
6. If during the term of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - i. Employ the Approved Spill Contingency Plan;
 - ii. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the DIAND Water Resources Inspector at (867) 975-4295; and
 - iii. Submit to the DIAND Water Resources Inspector on each occurrence, a detailed report including the GPS location, no later than thirty (30) days after initially

reporting the event.

PART J: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

1. The Licensee shall undertake the abandonment and restoration of the Cape Christian LORAN site, as described in the “*Former U.S. Coast Guard LORAN Station, Cape Christian, Nunavut Remedial Action Plan (January, 2007)*”, in accordance with the Application filed with the Board on February 12, 2007.
2. The Licensee shall complete all restoration work for the temporary camp facilities and waste disposal activities not included under Part J, Item 1 of this Licence, prior to the expiry of this Licence.
3. The Licensee shall backfill and restore, all temporary containment sumps, to the pre-existing natural contours of the land.
4. All disturbed areas shall be stabilized and re-vegetated as required, upon completion of work, and restored as practically as possible to a pre-disturbed state.

PART K: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall maintain Monitoring Program Stations at the following locations:

Monitoring Program Station Number	Description	Status
LOR-1	Raw water supply intake at the unnamed river adjacent to the Cape Christian Clyde River Road	Active (Volume)
LOR-2	Final Discharge Point from the Sewage Disposal Facility	Active (Water Quality)
LOR-3	Final Point of Discharge from the Demolition Rinse Area.	Active (Water Quality)
LOR-4	Final Point of Discharge from the Landfarm Facility.	Active (Water Quality)
LOR-5	Final Point of Discharge from the Solid Waste Disposal Facility.	Active (Water Quality)
LOR-6	Monitoring well installed up-gradient of the Land Farm Facility	Active (Water Quality)
LOR-7	Monitoring well installed down-gradient of the Land Farm Facility	Active (Water Quality)

2. The Licensee shall measure and record in cubic metres the daily quantities of water utilized for camp operations, for all purposes at the intake of the Water Supply Facility, Monitoring Program Station LOR-1.
3. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of water are utilized for all purposes.
4. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where wastes associated with camp operations are deposited.
5. The Licensee shall monitor compliance with respect to Part D Item 10, by collecting a representative composite sample once at the beginning of discharge upon initial release and prior to the end of discharge, from the Final Discharge Point of the Sewage Treatment Facility, Monitoring Program Station LOR-2:
6. The Licensee shall monitor compliance with respect to Part D Item 12, by collecting a representative composite sample from a minimum of 5% of the total volume to be released from the Final Discharge Point of the Demolition Rinse Area, Monitoring Program Station LOR-3; the Final Discharge Point of the Land Farm Facility, LOR-4 and the Final Discharge Point of the Solid Waste Disposal Facility, Monitoring Program Station LOR-5.
7. The Licensee shall monitor impacts from the Land farm by collecting representative samples from all monitoring wells installed under Part D, Item 21 and as described in the *Remedial Action Plan, Cape Christian LORAN Site, Clyde River, Nunavut, January 2007, submitted with the Application, February 12, 2007*. Samples shall be analyzed for parameters listed under Part D, Item 12.
8. 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.
9. The Licensee shall submit to an Analyst for approval, thirty (30) days prior to release of any effluent, a Quality Assurance/Quality Control Plan that conforms to the guidance document “*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).
10. The Licensee shall review the Plan referred to in this Part as required by changes in operation and/or technology and modify the Plan accordingly. Revisions to the Plan are

to be submitted in the form of an addendum to be included with the Annual Report, unless directed otherwise by the Board.

11. The Licensee shall submit to the Board for approval, upon completion of the undertaking and a minimum of three (3) months prior to the expiry of the Licence, a Post-closure Monitoring Plan for the site, that includes the long-term monitoring of the Solid Waste Disposal Facility addressing water quality monitoring, stability and the need for thermal monitoring and ground water monitoring.

Table No.1
(From INAC Abandoned Military Site Remediation Protocol)
DEW Line Clean-up Criteria (DCC)^a

Substance	DCC Tier I^{bc} (mg/L)	DCC Tier II^d (mg/L)
Arsenic	-	30
Cadmium	-	5.0
Chromium	-	250
Cobalt	-	50
Copper	-	100
Lead	200	500
Mercury	-	2.0
Nickel	-	100
Zinc	-	500
PCB's	1.0	5.0

a. These criteria were adopted specifically for the cleanup of Arctic DEW Line Sites from the 1991 versions of the Quebec Soil Contamination Indicators and the Canadian Council of Ministers of the Environment Interim Canadian Environmental Criteria for Contaminated Sites.

b. Soil criteria are given in parts per million, ppm.

c. Soils containing lead and/or PCBs at concentrations in excess of DCC I, but less than DCC II, may be landfilled,

d. Soils containing one or more substrates in excess of DCC II must be containerized - i.e. removed in a manner which precludes contact with the Arctic ecosystem.