



Inuvialuit Land Administration

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February 8, 2010

Northwest Territories Water Board (Inuvik Office)
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Email: McKenzieS@nwtwb.ca

RE: Hamlet of Ulukhaktok Municipal Water Licence Renewal Application

On Friday, February 5, 2010 the Inuvialuit Land Administration (ILA) received an email from the Northwest Territories Water Board (NWTWB) requesting comments on the hamlet of Ulukhaktok's water licence renewal application.

The following comments and advice are based on the ILA's mandate to supervise, manage and administer Inuvialuit private land as detailed in the Inuvialuit Final Agreement (IFA) as follows:

1. Under section 7 of the IFA, the Inuvialuit are granted approximately 35,000 square miles of land under the responsibility of the ILA;
2. Under section 7.(2) of the IFA, the ILA is responsible for the beds of all lakes, rivers, creeks, streams and other water bodies found in Inuvialuit private lands;
3. Impacts to the environment are often transitory in nature and will migrate to adjacent lands; and,
4. Many communities' waste disposal sites are located on, or adjacent to Inuvialuit private land and the run-off and displaced wastes from these sites ultimately impact Inuvialuit private land.

Based on a review of the renewal application submitted by the hamlet, and the NWTWB's public registry, the ILA recommends that the following be considered by the NWTWB:

Hazardous Waste Storage

- The most recent INAC inspection of the hamlet's landfill, which took place in October 2009, indicates that hazardous wastes are not being properly segregated and stored and require backhauling. A review of the hamlet's *Landfill O&M Plan* reveals that the approved plan for dealing with hazardous wastes is not sufficiently detailed; rather the plan states that "Household hazardous waste storage may be permitted within the site.

Appropriate means of storage and disposal for household hazardous waste will be developed by the Hamlet". Although the approved plan does identify some general policies for dealing with hazardous wastes later in the document, the policies are not sufficiently specific to ensure proper handling and storage of the materials. Since the hamlet has been unable to properly deal with hazardous wastes, the ILA believes the hamlet should be required to submit an addendum to the approved *O&M Plan* that details a plan for dealing with hazardous wastes. The plan should include:

1. A schedule for inspecting the hazardous waste area;
2. A step-by-step explanation of how different hazardous waste materials are to be stored and where;
3. A methodology for dealing with the poorly stored and leaking materials already on-site; and,
4. A schedule for backhauling hazardous waste materials.

Sewage Disposal Facility

- The most recent INAC inspection of the sewage lagoon indicates that the berm surrounding the wastes is shifting. The hamlet should take immediate actions to remedy this situation as any spill at this location will have serious impacts to water quality and the surrounding Inuvialuit private lands.

Sewage Sludge

- The most recent INAC inspection indicates that sewage sludge in the sewage lagoon may be sufficiently voluminous to be impacting the effectiveness of the lagoon. A review of the hamlet's *Lagoon O&M Plan*, indicates that the hamlet does not have an approved plan for the treatment and disposal of sewage sludge. The NWTWB should require an addendum to the approved *Lagoon O&M Plan* dealing specifically with sewage sludge. The addendum should include:
 1. A plan for measuring the quantity of sewage sludge in the lagoon;
 2. An explanation of what is the maximum acceptable quantity of sewage sludge in the lagoon; and,
 3. A detailed plan for the treatment and disposal of sewage sludge.

Abandonment and Restoration

- The NWTWB should determine if the hamlet's introduction of a new water facility requires that the hamlet submit an abandonment and restoration plan for the old water supply facility, or whether this type of activity is more akin to modification. In either case the hamlet should submit as-built engineered drawings of the new facilities as soon as they are available.

Hamlet Coordinates

- In the draft licence, the coordinates of the hamlet are described as '*Latitude 70°44' North and Longitude 117° 45' West*' which is on Inuvialuit private lands to the east of the hamlet. The ILA suggests that '*Longitude 117°46' West*' would be a more appropriate coordinate.

Renewal of Water Licence

- The ILA supports the renewal of Ulukhaktok's municipal water licence, however, the ILA suggests the NWTWB may want to consider limiting the term of the hamlet's renewed water licence to a maximum of two years, given the numerous compliance issues identified by the inspector.

The ILA appreciates the opportunity to provide comment and advice on Ulukhaktok's water licence renewal application. If there are any questions or comments please feel free to contact me.

Deon Bridge
Inuvialuit Land Administration
Land Use Research Advisor



Indian and Northern
Affairs Canada

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et du Nord Canada

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File: N7L3-1525
Hamlet of Ulukhaktok

February 26, 2010

Sarah McKenzie
Regulatory Coordinator
NWT Water Board
P.O. Box 2531
Inuvik, NT X0E 0T0

SEND BY FAX: (867) 678-8611

Dear Ms. Mckenzie,

Re: Hamlet of Ulukhaktok N7L3-1525 – Municipal Water Licence Draft Revision

The Water Resources Division and North Mackenzie District office of Indian and Northern Affairs Canada have reviewed a draft of the Hamlet of Ulukhaktok Municipal Water Licence N7L1-1525. INAC submits the attached comments to improve and provide additional clarity in the draft water licence. Some recommendations provided differ from the standard conditions used in previous licences; however, INAC feels that these suggestions are appropriate and will improve the licence.

If you have any further questions or concerns please contact Ms. Jeanne Arsenault, Regulatory and Science Advisor, at (867) 669-2658 or Jeanne.Arsenault@inac-ainc.gc.ca, or Mr. Jan Davies, Water Resource Officer, at (867) 777-8909 or Jan.Davies@inac-ainc.gc.ca.

Sincerely,

-ORIGINAL SIGNED BY ROBERT JENKINS FOR-

Carole Mills
Manager
Water Resources Division
Indian and Northern Affairs Canada

PART A - SCOPE AND DEFINITIONS

- The “**Pump-out Sewage**” definition should read as follows: means all Toilet Wastes *or Toilet Waste and Greywater mixture* collected by means of a vacuum truck for disposal at an approved facility;
- The “**Sewage**” definition should read as follows: means all Toilet Wastes *or Toilet Waste and Greywater mixture*;
- The “**Sewage Disposal Facilities**” definition should read as follows: comprises the area and engineered structures designed to contain *and treat* Sewage;

PART B - GENERAL CONDITIONS

- Part B - Condition 1 should read as follows: The Licencee shall file an Annual Report with the Board and an Inspector *no* later than April 30th of the year following the calendar year reported that shall contain the following information:
- Part B - Condition 1 l should read as follows: any other details on Waste disposal or water use requested by the Board, *on or before* November 1st of the year being reported.
- INAC recommends that all spills equal or above reportable thresholds identified within the attached table be immediately reported to the NWT 24 hour spill report line (867) 920-8130. These reportable amounts align and build upon those identified within the *Spill Contingency Planning and Reporting Regulations* under the Government of the Northwest Territories’ *Environmental Protection Act*. In addition, INAC recommends that all spills, regardless of amount should be recorded onsite and available to the Inspector upon request.

INAC recommends that Part B – Condition 7 should read as follows: “*The Licensee shall immediately report to the 24 Hour Spill Report Line (867-920-8130) any spills equal or above the amounts established in Schedule B, Item 1, within municipal boundaries or in the areas of the Water Supply or Waste Disposal Facilities.*”

PART C – CONDITIONS APPLYING TO WATER USE

- INAC notes that the maximum annual quantity of water use has been reduced from 35,000 cubic metres to 20,000 cubic metres. INAC is unclear of the Board’s rationale for such a significant reduction, given that the community requested a quantity of 35,000 cubic metres in their application.

PART D - CONDITIONS APPLYING TO WASTE DISPOSAL

- Hazardous waste such as batteries, waste oil and fuel are to be stored in a designated temporary storage area of the SWDF as per Part D, Item 9 of the Water Licence. However, INAC recommends that this condition be reworded as follows: “The Licensee shall segregate and store hazardous Waste in a temporary storage area, to the satisfaction of an Inspector, *to be shipped out for proper disposal at an approved facility.*”
- The effectiveness of wastewater treatment is currently being impaired at the municipal sewage lagoon by a damaged sewage disposal chute. Sewage is currently being discharged to the lagoon adjacent to the disposal chute and is eroding fill material into the lagoon. At present, this is also becoming a safety/potential spill issue as trucks are in close proximity to the lagoon without adequate tire stops.

To ensure that lagoon efficiency is not also impaired by the migration of fill material, in addition to sludge build up which usually accumulates over time, INAC recommends that the Board place a condition within the water licence for the municipality to assess the level of sludge in the lagoon and lagoon depth regularly, to determine if or when sludge/material removal may be required to maintain lagoon effectiveness.

- Condition 10 relates to the open burning of solid or liquid waste. Issues relating to air emissions do not fall under the jurisdiction of the *Northwest Territories Waters Act*. Issues related to leachate concerns or water contamination from residual material can be addressed through the terms and conditions or SNP requirements of a Water Licence. The Board must be diligent to ensure that any and all conditions relating to disposal of waste via burning are enforceable under the *Northwest Territories Waters Act*.

Please note that INAC and the Inspector are aware of and support the document entitled “*Municipal Solid Wastes Suitable for Open Burning*”, developed by the GNWT Department of Environment and Natural Resources and will refer the community to their existence. However, INAC is concerned that Condition 10 as proposed by the Board may not be wholly enforceable under the *Northwest Territories Waters Act*. INAC would like to meet with Board staff to discuss this issue further.

PART E - CONDITIONS APPLYING TO OPERATION AND MAINTENANCE

- Condition 3 - In the previous water licence, a list of key components to be included in Ulukhaktok’s O&M Plan was provided. INAC recommends that this list of components remain within the new licence and be referenced in Part E, Item 3, to provide specific direction to the proponent in addition to the referenced document.

- It has been noted by the INAC Inspector that the dyke around the sewage lagoon has been subsiding and cracking. The addition of material is required to ensure the same elevation everywhere around dyke. In order to address this situation adequately and prevent the dyke failure from affecting the SDF operation, a regular inspection of the dyke and the whole lagoon by a qualified engineer is recommended to ensure stability and effective treatment of sewage with the current structure. INAC recommends that the Board insert a condition within the water licence requiring regular inspections of the sewage disposal structure.

PART G - CONDITIONS APPLYING TO CONSTRUCTION

- The previous Water Licence contained a reference to what constituted construction: “dams, dykes or structures, intended to contain, withhold, divert or retain water or wastes”. Part G, Item, 1 should be written to include these: “Prior to any new construction related to the Water Supply Facilities or Waste Disposal Facilities *including any dams, dykes or structures intended to contain, withhold, divert or retain water or Waste*, other than as contemplated in an approved Spill Contingency Plan, the Licencee shall submit to the Board a rationale and design drawings.” It may also provide clarity to the Licencee if the Board were to add “Construction” to the Water Licence definitions.

PART H - CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

- Closure and Reclamation are the terms currently used in the mining industry when relating to abandonment and restoration. There should be discussions about changing the terms as some point in the future. It is understood that the *Northwest Territories Waters Act* makes reference to Abandonment.

SURVEILLANCE NETWORK PROGRAM - PART B

No comments

Reportable Spill Quantities

TDG Class	Substance	Reportable Quantities for NWT/NU 24-Hour Spill Reports
1.0 2.3 6.2 6.2 7.0 None	Explosives Compressed gas (toxic/corrosive) Infectious substances Sewage and wastewater (unless otherwise authorized) Radioactive materials Unknown substance	Any amount
2.1 2.2	Compressed gas (flammable) Compressed gas (non-corrosive, non-flammable)	Any amount of gas from containers with a capacity greater than 100 L
3.0	Flammable liquid	≥ 100 L
4.1 4.2 4.3	Flammable solid Substances liable to spontaneously combustible Water reactant substances	≥ 25 kg
5.1	Oxidizing substances	≥ 50 L or 50 kg
5.2 9.0	Organic peroxides Environmentally hazardous substances intended for disposal	≥ 1 L or 1 kg
6.1 8.0 9.0	Toxic substances Corrosive substances Miscellaneous Products, Substances or Organisms	≥ 5 L or 5 kg
9.0	PCB mixtures of 5 or more parts per million	≥ 0.5 L or 0.5 kg
None	Other contaminants, e.g., crude oil, drilling fluid, produced water, waste or spent chemicals, used or waste oil, vehicle fluids, wastewater, etc.	≥ 100 L or 100 kg
None	Sour natural gas (i.e., contains H ₂ S) Sweet natural gas	Uncontrolled release or sustained flow of 10 minutes or more
3.0 None	Flammable liquid Vehicular fluid	≥ 20 L When released on a frozen water body used as a working surface

Report releases/potential releases of any size that:

- are near or into an open water body;
- are near or into a designated sensitive environment or sensitive wildlife habitat;
- pose an imminent threat to human health or safety; or
- pose an imminent threat to a listed species at risk or its critical habitat.

February 25, 2010

Sarah McKenzie
Regulatory Officer
Northwest Territories Water Board
P.O. Box 2531
125 Mackenzie Road
Suite 302 Professional Building
Inuvik, NT XOE OTO

Dear Ms. McKenzie,

**Re: Hamlet of Ulukhaktok
 Type B Water Licence Renewal - N7L3-1525
 Request for Comments**

The Department of Environment and Natural Resources (ENR) has reviewed the above noted project based on its mandated responsibilities under the *Environmental Protection Act*, the *Forest Management Act*, the *Forest Protection Act* and the *Wildlife Act* and provides the following comments and recommendations for consideration by the Board.

Comments and recommendations were provided by ENR technical experts in the Environment Division, Forest Management Division, Wildlife Division and/or Inuvik Region, and were coordinated and collated by the Environmental Assessment and Monitoring Section (EAM).

Should you have any questions or concerns please do not hesitate to contact Patrick Clancy, Environmental Regulatory Analyst, at (867) 920-6591 or email at patrick.clancy@gov.nt.ca.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Clancy', written in a cursive style.

Patrick Clancy
Environmental Assessment Analyst
Environmental Assessment and Monitoring
Environment and Natural Resources

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1.0 OPERATIONS AND MAINTENANCE PLAN

Discussion

The purpose of an Operations and Maintenance (O&M) Plan is to assist community staff in the proper operation and maintenance of their waste facilities. The current O&M Plan for the solid waste facility (SWF) has not been updated since 2004. Based on an Indian and Northern Affairs Canada (INAC) inspection completed on October 27, 2009, “*the O&M Plan needs to be updated and that and components of that Plan are not being followed...*” Hence, ENR is concerned that this will result in what would otherwise be preventable adverse environmental impacts.

The *Guideline for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories*¹, is endorsed by the Departments of Municipal and Community Affairs (MACA) and Environment and Natural Resources (ENR), Government of the Northwest Territories. It provides specific advice in this regard, has been developed specifically for use in the NWT, and provides definitions and uses terminology and instructs on common procedures that will provide all stakeholders certainty and clarity when discussing, planning for, and operating the Hamlet’s waste facilities. Also, for specific guidance on the development of an O&M Plan, consult the *Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories*².

Recommendations

ENR recommends that an updated Operations and Maintenance Plan is prepared and submitted to the Board for its approval. The Hamlet should also consult the *Guideline for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories* and the *Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories* in developing this plan. And, once this plan is developed, ENR recommends that it is made available to any staff, operators, and/or contractors performing any functions related to the management of the SWF, and that the Plan is followed.

2.0 SITE ACCESS

Discussion

¹ Municipal and Community Affairs. 2003. *Guideline for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories*.

² Municipal and Community Affairs. 1996. *Guideline for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories*.

ENR is concerned that adverse environmental impacts may result from poor management of access at the SWF. This may contribute to uncontrolled dumping and access of wildlife. ENR understands that:

- There is a fence along the west side of the SWF only. The fence does not extend around the entire perimeter of the facility.
- Portions of the existing fence are in a poor state (Figure 1) and in need of repair.
- There is no gate to restrict access to the facility.



Figure 1: Fence Along the West Side of the Solid Waste Facility (Photos taken in July 2009 by ENR staff)

Recommendation:

It is recommended that the Hamlet repair the existing fence, extend the fence to include the entire perimeter of the SWF, and install a gate at the entrance to prevent uncontrolled access. These measures will also mitigate access by wildlife to the SWF.

3.0 WASTE SEGREGATION

Discussion

ENR is concerned that there is currently poor waste segregation at the Ulukhaktok SWF. For example, the October 27, 2009 INAC inspection report indicated that:

- *Better waste segregation is needed as waste appliance were mixed with domestic waste;*
- *Hazardous waste is located throughout the solid waste facility; and,*
- *Waste metal is located throughout the facility.*

Poor waste segregation and control contributes to unmitigated and adverse environmental impacts, including but not limited to: risks to health and safety, non-compliance with requirements of an O&M Plan, unmitigated leachate generation and release, and windblown debris.

In general, waste segregation is a critical component in the management of a SWF. It enables the operator to ensure that the goals and requirements of the O&M Plan for the SWF are followed and met. For example, different waste types have difference requirement for compaction and covering. The domestic waste area requires frequent compaction and covering, and should include a litter fence, to prevent windblown debris from the site. Conversely, in an area that is dedicated for white goods (i.e. old appliances), there is not a need for frequent compaction or covering or a litter fence. Another area at the SWF can be dedicated for wood/construction materials, which can help facilitate recycling and reuse of these materials.

Recommendation

It is recommended that the Ulukhaktok SWF have dedicated areas for different types of waste, that signs be posted at these locations to direct Hamlet staff and the public where to place the different types of wastes, and that the O&M Plan include procedures that reflect different operational and maintenance requirements of the dedicated areas.

4.0 MANAGEMENT OF WINDBLOWN DEBRIS

Discussion

ENR is concerned that there is unmitigated windblown debris generated from the SWF. This results in increased risks to health and safety of the public and workers, unsightliness, and potential cumulative adverse environmental impacts.

In the 2004 O&M Plan (section 3.1, page 4), it states that, *“Blowing litter will be controlled by the proper use of portable barricades at the active dumping area and by a*

perimeter fencing around the site. The mobile litter fences will be aligned according to the wind direction. The debris accumulated on the fences may be collected on a periodic basis to prevent migration onto adjacent properties. Collection of litter blown onto adjacent properties will also be undertaken.”

However, site visits by ENR staff in July 2009 indicate that the measures to mitigate windblown litter are either not in place, or are not working. ENR staff has noted that litter from the SWF is often present on the other side of the fence and berm and along the road and an adjacent water body. Figures 2 and 3 are photos taken by ENR staff in July 2009 that demonstrates the extent of windblown debris scattered on the land outside the SWF.



Figure 2: Winblown Debris Originating from Solid Waste Facility. (Photos taken in July 2009 by ENR staff)

Recommendation:

ENR recommends that the Hamlet reassess the methods that are currently in place to prevent windblown debris, and develop operation and maintenance procedures (i.e. higher fence/berm, litter fence at the active area, more frequent covering, spring litter

pick up, etc.) to mitigate this issue and include these procedures in its updated O&M Plan.



Figure 3: Windblown Debris Originating from Solid Waste Facility. (Photos taken in July 2009 by ENR staff)

5.0 HAZARDOUS WASTE

Discussion

Hazardous waste, if not managed properly, results in increased risks to health and safety of the public and workers, the potential release of contaminants in leachate generated at the facility, and increased economic liabilities to the community. ENR is concerned that there is poor control of hazardous waste at the SWF. The October 27, 2009 INAC inspection report states, *“The batteries, waste oil, and fuel at the SWF in addition to other hazardous wastes need to be properly stored in a designated bermed area to ensure proper containment. Consequently, this material is located throughout the SWF... There is a clear indication that many containers are leaking...”*.

Furthermore, Section 2.2, page 3 of the 2004 O&M Plan states that, “...*commercial and industrial hazardous waste collection, storage and ultimate disposal will be the responsibility of the generator*”. ENR affirms the Hamlets decision to not accept commercial or industrial hazardous waste for which it does not have the planning or resources to manage. Institutional, commercial, and industrial (ICI) hazardous waste is often intermingled with household hazardous waste (HHW) (i.e. oil, batteries, paint). The Hamlet must recognize that it is responsible for screening unacceptable ICI wastes out of their facility, and, if uncontrolled access to the facility results in these wastes entering the facility, then the Hamlet is putting itself in the position to accept the financial and environmental liability that results.

ENR is committed to work closely with the Hamlet to aid in determining its decisions about hazardous waste management, including the collection, segregation, and storage of HHW. ENR can also provide assistance with the training of local staff through HHW education and the organization of collection events.

Recommendation – Hazardous Waste Management

ENR recommends that the Hamlet develop a site specific Hazardous Waste Management Plan that identifies hazardous materials and wastes it will accept at the SWF, and details the mitigative measures required to ensure its proper management. Attached is a draft document, *Developing a Community Hazardous Waste Management Plan*, which ENR recommends for use by the Proponent as a guidance document to aid in developing the plan.

Hazardous waste generated from commercial or industrial operations outside the Hamlet should not be accepted at the facility, until such time as evidence is provided that the facility is designed, operated, funded and licenced to accommodate it.

6.0 CLOSURE AND RECLAMATION

Discussion

Ultimately, a complete Closure and Reclamation Plan (C & R Plan) will be required for the solid waste facility. A preliminary Closure and Reclamation Plan is also required for any solid waste disposal facility, as the initial first step.

The development of a C&R Plan is important. For background, there are three distinct steps, performed in the proper order, through the development of a Final C&R Plan:

1. Preliminary Closure and Reclamation Plan
2. Interim Closure and Reclamation Plan
3. Final Closure and Reclamation Plan

Step 1, a Preliminary C&R Plan, is appropriately prepared in conjunction with the planning and permitting stage of the SWF. The general purpose is to propose closure objectives, alternatives analysis, and proposed closure criteria to understand the Proponent's intent. Determining appropriate closure options should also be integrated with a level of community engagement to build consensus upfront.

Step 2, the Interim C&R Plan, is to identify uncertainties surrounding certain closure options that guide corresponding areas for reclamation research during operations prior to closure. There are typically several versions that are prepared during the life of the facility to address changes in development alternatives, and to refine as the facility progresses towards closure and subsequent versions of Closure and reclamation Plan are produced. Interim Plans are prepared on a regular basis to coincide with operational changes, advances in technology, key milestones, information collected during reclamation research, and results of community engagement.

Step 3, the Final C&R Plan, should be more detailed because more information and studies are available to determine duration, frequency, and magnitude of the effects. The final version of the C&R Plan is to contain detailed reclamation activities, and should be prepared and approved prior to a scheduled permanent closure or immediately after an unplanned closure.

Recommendation

It is recommended that the Hamlet prepare and submit a Preliminary Closure and Reclamation Plan for the Solid Waste Disposal Facility, and submit it to the Board for review and approval. This Preliminary C & R Plan should be submitted one year following the date of the current water licence extension/renewal.



Environment Canada
Environnement Canada

Environment Canada
Prairie and Northern Region
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February 26th, 2010

Your File: N7L3-1525
Our File: 4782 039

Sarah McKenzie
Regulatory Officer
NWT Water Board
P.O. Box 2531
Inuvik, NT X0E 0T0

Re: Hamlet of Ulukhaktok – Water Licence Renewal Application N7L3-1525

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's responsibilities under the *Canadian Environmental Protection Act*, and Section 36(3) of the *Fisheries Act*.

The Hamlet of Ulukhaktok is applying to renew their water licence for a three year term to allow for the municipal use of water and deposit of waste.

The Sewage Treatment Facility has been in use for 20 years and consists of a tundra pond with engineered berms to increase retention. This natural engineered lagoon retains sewage for 8 months over the winter. During the months of July to October effluent discharges continuously by exfiltration through the berm into a wetland. The first 900 m of the wetland discharge path is geographically separated from a natural wetland course and, after the confluence with the natural wetland proceeds 1200 m downstream to the Arctic Ocean.

The Solid Waste Facility consists of a bermed active area and a bermed waste oil disposal area as well as pits for carcasses and honey bags, a waste metal dump area and a bulky waste area. It is unclear whether the waste metal and bulky waste have any type of containment to prevent leachate from entering into the wetland that surrounds the site. Continuing problems include management of windblown debris and waste segregation.

Environment Canada notes the long history of non-compliance as detailed in the annual INAC inspection reports. EC has concerns that immediate renewal of the Licence will only lead to continued non-compliance. EC urges the Board, and INAC as the Board's regulator, to consider alternative means of ensuring that Licence conditions will be met. EC recommends that a Plan for Compliance be submitted to the Board for approval that clearly demonstrates the measures the Licensee will undertake, including an implementation schedule, to achieve full compliance with the conditions of the Licence.

At such time as the Board deems it appropriate to issue a new licence, Environment Canada recommends that the following conditions be applied throughout the duration of the licence:

General

- The Hamlet must ensure that any effluent discharged from the system's final discharge point is in compliance with Section 36(3) of the *Fisheries Act*. According to the *Fisheries Act*, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance,

or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.

- **CCME Strategy:** It is important to be aware that Environment Canada is in the process of developing regulations under the authority of the *Fisheries Act*, based on the CCME Canada-wide Strategy for the Management of Municipal Wastewater Effluent. The North, including the Northwest Territories, is excluded from this regulation for a 5-year period for research on factors that affect performance of wastewater facilities in northern conditions. Depending upon the expiry date of this licence, municipal wastewater effluent regulations applicable to this system may be expected within the lifetime of this licence.
- **Operation and Maintenance (O&M) Manuals:** Updated Operations and Maintenance Manuals should be submitted for approval as a condition of the water licence to reflect changes in operations and licence conditions.
- **Monitoring:** EC notes that no water sampling has taken place during the last 20 years of having a water licence. Proper and regular monitoring allows for evaluation and management of the system and will help to detect and prevent deleterious discharge to the receiving environment.
- **Quality Assurance, Quality Control (QA/QC) Plan:** In order to provide the appropriate resources to those individuals who will be collecting water samples, a QA/QC Plan should be developed to address proper sample handling, documentation, and transport of water samples to an analytical laboratory. EC recommends requiring a QA/QC Plan as part of the updated O&M Manuals or as a stand alone document.
- **Spill Contingency Plan:** EC recommends that the Hamlet be required to submit a Spill Contingency Plan to the Board for approval. The Plan should include reporting procedures, response plans for various types of spills, a list of available spill response equipment and materials, and contact information for personnel trained in cleanup response.
- **Annual Report:** In order to ensure that all the information required in the Annual Report is provided, EC recommends requiring the Annual Report to be submitted for approval. Should information be found to be lacking or unclear, the Licensee should be required to resubmit a revised Annual Report.

Sewage Treatment Facility:

- **Boundary of the Site:** In the Background Report of 2008, the Hamlet proposes to expand the boundary of the Sewage Treatment Facility to a rectangular boundary that encompasses the wetland area where the Sewage Effluent flows. EC is unable to comment on this proposal without details on the environment, the hydrology and water chemistry of the site.
- **Surveillance Network Program (SNP):**
 - The Hamlet proposes to change the point of compliance for the Sewage Treatment Facility to the end of the wetland where effluent flows, prior to entering the marine environment. EC recommends maintaining the SNP compliance site to be the point of exfiltration from the lagoon into the wetland, where some level of control exists and that an additional monitoring station would be appropriate at the end of the wetland. If the compliance point is to be moved to the bottom of the wetlands, it would be appropriate to set licence effluent discharge criteria at lower levels.
 - Site 1525-2 should be located on the outer side of the lagoon berm, so as to sample flowing water that has been discharged. A sign should be in place to identify the appropriate sampling location and ensure that all samples are taken from the same representative area.
 - EC recommends including the nutrient parameter of ammonia in the monitoring requirements for SNP sites 1525-2 and 1525-5, as ammonia, together with pH, provides indication of effluent toxicity.

- **Freeboard:** A minimum 1 m of freeboard should be maintained within the sewage lagoon at all times.
- **Berm Maintenance:** EC notes the non-compliance problem of berm instability. The potential for berm failure must be avoided to prevent an early release of un-treated sewage. EC recommends a geotechnical inspection be completed on the berm and that any recommendations provided to improve the stability of the berm be implemented by the Licensee.
- **Sewage Sludge and Floating Mats Maintenance:** EC notes that the Sewage Treatment Facility has been in use for 20 years and that floating mats have been collecting on the surface of the lagoon. Maintenance should include removal and disposal of sewage sludge and floating mats, especially towards the latter years of a lagoon's design life. Estimates should be made of the quantities of sludge likely to be produced, the required frequency of extraction from the lagoons; and operational procedures developed for environmentally sound removal and disposal. These procedures should include characterization to ensure disposal options are appropriate. Environment Canada recommends that prior to desludging occurring, the proponent submit for approval a Sewage Sludge Management Plan that includes analyzing the chemical composite of the solids, and describing method of disposal.
- **Honey Bag Site:** Honey Bag Site needs to be identified, and the location should be identified for residents to ensure that Honey Bags are disposed of at the proper location.

Solid Waste Facility:

- **Boundary of the Site:** In the Background Report of 2008, the Hamlet proposes to expand the boundary of the Solid Waste Site to include a wetland boundary and to move the SNP point 1525-4 to further downstream. EC is unable to comment on this proposal without details on the environment, the hydrology and water chemistry of the site.
- **Signage:** Environment Canada recommends that proper signage is in place indicating the locations of the SNP sites of the Solid Waste Facility, as well as for the relevant segregated waste materials (ie, domestic garbage, waste appliances, wood waste, bulky metals, honey bag pit, etc).
- **Hazardous Waste Management Plan:** EC notes the issue of improper Hazardous Waste storage and disposal as detailed in the Inspector's reports. Controlling access to the Hazardous Waste and appropriate containment to reduce spills or leachate into the natural environment are required. To this end, EC recommends that the Licensee develop and implement a Hazardous Waste Management Plan that covers appropriate handling and storage, as well as identify ultimate disposal of Hazardous Wastes. Storage and disposal of waste oil should be included in this plan.

If there are any changes in the proposed activities, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 669-4715 or by email at mary.kelly@ec.gc.ca

Yours truly,

Mary Kelly
Physical Science Officer – Wastewater Specialist
Environmental Protection Operations

cc: Carey Ogilvie, Head EA North, Environment Canada
Anne Wilson, Water Pollution Specialist, Environment Canada



Fisheries and Oceans Canada Pêches et Océans Canada

P. O. Box 1871
Inuvik, Northwest Territories
X0E 0T0

February 23, 2010

Your file Votre référence
N7L3-1525

Our file Notre référence
10-HCAA-CA6-00005

Sarah McKenzie
Northwest Territories Water Board
Inuvik, Northwest Territories
X0E 0T0

Dear Ms. McKenzie:

Subject: Proposal not likely to result in impacts to fish and fish habitat provided that additional mitigation measures are applied.

Fisheries and Oceans Canada - Fish Habitat Management Program (DFO) received the proposal on February 5, 2010. Please refer to the file number and title below:

DFO File No.: **10-HCAA-CA6-00005**
Title: **Ulukhaktok Municipal Water Licence Review**

The proposal has been reviewed to determine whether it is likely to result in impacts to fish and fish habitat which are prohibited by the habitat protection provisions of the *Fisheries Act* or those prohibitions of the *Species at Risk Act* that apply to aquatic species.*

Our review consisted of:

Application for Licence Renewal from Hamlet of Ulukhaktok – Feb.2, 2010
Draft Ulukhaktok Municipal Licence
Hamlet of Ulukhaktok Background Report for Water Licence Renewal - 2008

We understand that the proponent:

- Plans to withdraw up to 35,000 cubic meters of water from RCAF Lake per year.
- Has equipped the raw water intake hose used on the water pumps with a screen with a mesh size sufficient to ensure no entrainment of fish.

*Those sections most relevant to the review of development proposals include 20, 22, 32 and 35 of the *Fisheries Act* and sections 32, 33 and 58 of the *Species at Risk Act*. For more information please visit www.dfo-mpo.gc.ca.

To reduce potential impacts to fish and fish habitat we are recommending the following mitigation measures be included into the proposed plans:

1. DFO notes that there is a discrepancy between the Draft Licence and the Application for Licence Renewal. Page 1 of the Application requests a withdrawal of 35,000 cubic meters per annum, and Part C 3 of the Draft Licence states that the annual quantity of water withdrawal should be 20,000 cubic meters. Regardless, the attached DFO Protocol for Winter Water Withdrawal In the Northwest Territories should be applied.
2. As per Part G 4, any fill that may infringe upon fish habitat (including riparian habitat) could cause a harmful alteration, disruption, or destruction (HADD) of fish habitat and the associated plans should be reviewed by DFO prior to that activity.
3. Ensure that the intake facility follows the attached Freshwater Intake End-of-Pipe Fish Screen Guideline.

Provided that the additional mitigation measures described above are incorporated into the proposed plans, DFO has concluded that the proposal is not likely to result in impacts to fish and fish habitat.

The proponent will not need to obtain a formal approval from DFO in order to proceed with the proposal.

If the plans have changed or if the description of the proposal is incomplete the proponent should contact this office to determine if the advice in this letter still applies.

Please be advised that any impacts to fish and fish habitat which result from a failure to implement the proposal as described or incorporate the additional mitigation measures included in this letter could lead to corrective action such as enforcement.

If you have any questions please contact the undersigned at (867) 777-7515, by fax at (867) 777-7501, or by email at Amanda.Joynt@dfo-mpo.gc.ca.

Yours sincerely,

(original signed by Amanda Joynt)

Amanda Joynt
Fish Habitat Biologist

Copy: L. Egotak - Hamlet of Ulukhaktok
T. Stein - DFO
L. Dow - DFO

Attachments: Freshwater Intake End-of-Pipe Fish Screen Guideline, DFO Protocol for Winter Water Withdrawal In the Northwest Territories