
NUNAVUT WATER BOARD

DECISION

Date of Hearing: September 8 and 9, 1999

Date of Decision: December 15, 1999

IN THE MATTER OF Article 13 of the *Nunavut Land Claims Agreement*,

- and -

IN THE MATTER OF the renewal of the Town of Iqaluit=s municipal licence.

Cite as: re: Iqaluit Licence Renewal 1999

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NUNAVUT TUNNGAVIK INC.	Laurie Pelly
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BAFFIN REGIONAL BOARD OF HEALTH AND SOCIAL SERVICES (BRBHSS)	Nicole Ritchie
DEPARTMENT OF FISHERIES AND OCEANS CANADA (DFO)	Margaret Keast
ENVIRONMENT CANADA (EC)	Ann Wilson
DEPARTMENT OF INDIAN AND NORTHERN AFFAIRS (DIAND)	Peter Kusugak David Jessiman
DEPARTMENT OF JUSTICE CANADA	Lee F. Webber

SUMMARY

On March 12, 1999, the Nunavut Water Board received an application for the renewal of licence N5L4-0087 from the Town of Iqaluit. The Board decided to hold a hearing on September 8 and 9, 1999 before approving the application. Following submissions from several parties, including the Town, DIAND, DFO, Environment Canada, Mr. Marcel Mason, and Mr. Paul Crowley, the Board decided to renew the Town=s water licence for a term of one year. The Board attaches several conditions, including provisions for the use of freshwater for municipal purposes from Lake Geraldine, the submission of a Solid Waste Management Plan, a study to assess the link between air emissions from burning of refuse at the municipal dump and impacts on fresh water, the operation of a new sewage treatment plant and decommissioning of the current sewage lagoon. The decision provides the Town and interested parties with the opportunity to reconvene in a public hearing in the fall of 2000 to assess the Solid Waste Management Plan and the conclusion of the study on impacts of air emissions from the dump on freshwater.

I. Procedural History and Background

Procedural History

This matter involves the renewal of the water licence of the Municipality of Iqaluit, in Nunavut. The Municipality is located on Commissioner's Land, and a water licence regulates water use and waste disposal activities for municipal purposes. The previous water Licence was issued by the Northwest Territories Water Board on January 1, 1996 and was valid until December 31, 1998. This licence authorized the Municipality of Iqaluit to use water and dispose of waste in conjunction with municipal services.

On September 1, 1998, the Municipality of Iqaluit requested a delay of six months to file an application for the renewal of Licence N5L4-0087. The Board granted the request and decided to extend the expiry of the licence until it could make a final decision following submission of the application for licence renewal. On March 12, 1999, the Municipality of Iqaluit filed an application for licence renewal.

Upon initial review of the application, the Board decided to hold a hearing before approving it. A pre-hearing was held May 18, 1999 in Iqaluit with the applicant and interested parties. In consultation with the parties, the date of the public hearing was set for July 13, 1999. In subsequent consultation with the applicant and interested parties, the Board postponed the hearing to July 20, 1999 at the request of the Town of Iqaluit. On July 12, 1999, the Nunavut Water Board had to adjourn the hearing until further notice because the term of appointment of several members of the NWB expired and new members had not been formally appointed by the Minister of Indian and Northern Affairs Canada. Upon the appointment of new members of the Board, the hearing was re-scheduled for September 1 and 2, 1999. Again, at the request of the Town of Iqaluit, the Board decided to postpone the hearing until the week of September 6, 1999.

A public hearing was held on September 8 and 9, 1999 in Iqaluit. Following the hearing and in light of issues raised at the hearing, the Board gave all parties the opportunity to respond or comment on any matter related to the application. Deadline to receive submissions was set for October 12, 1999

and a deadline to reply to the submissions was set for October 26, 1999. At the request of the Nunavut Department of Justice, the Board decided to extend the deadlines to October 25, 1999 and November 5, 1999 respectively.

Background

Iqaluit, known as Frobisher Bay until January 1, 1987 when the town reverted to its original Inuktitut name, is located near the site of a traditional Inuit fishing camp, at 2,261 air km east of Yellowknife, and 2,060 air km north of Montréal. It is located on rocky, irregular coastline in rocky lowland area, flanked by mountains on the northeast and southwest. The vegetation is typical of the sub-arctic tundra bio-region. Average annual precipitation is 19.2 centimetres of rainfall, 255 centimetres of snowfall, for 43.3 centimetres of total precipitation. July mean high temperature is 11.4 °C, and low is 3.7 °C. January mean high is -21.5 °C, and low is -29.7 °C. Winds are NW in the fall, SE in summer, at an annual average speed of 16.7 km/h. Iqaluit is located in the continuous permafrost area.

The site of Iqaluit remained relatively undisturbed since the first recorded contact with Europeans in 1576. Most of the development of Iqaluit occurred because of the United Air Force's construction of the largest airbase in the North on the site in 1942-43. The USAF was active until 1963, with a variety of projects: construction of a radar station, expansion of in-flight refueling capabilities, sending men and supplies to the eastern part of the Distance Early Warning (DEW) line then under construction. Iqaluit is also the site of a Forward Operating Location (FOL) since the beginning of the 1990s.

The Municipality of Iqaluit obtained Town status on October 1, 1980. In June 1981, the population was estimated at 2,333. The 1986 Census established the population at 2,947. A June 1988 GNWT assessment estimated the population at 3,039. The 1996 Census established the population at 4,220; according to the Nunavut Department of Community Government and Transportation, the estimated growth rate over the next five years is 3.7% per year.

Over the years, Iqaluit became the major administrative and political centre for the Baffin region; it is now the capital of the new territory of Nunavut, which was formally proclaimed April 1, 1999.

Access to Iqaluit is by air. Access by sea is possible during the ice-free season, generally from July to October. Heavy machinery, vehicles, dry goods, construction material and supplies, fuel and lubricants, are transported by ship from Southern Canada.

II. Issues

Several parties raised a number of related issues regarding the water licence for Iqaluit. These issues include:

- A. the remediation of the existing sewage lagoon; the maintenance of the dykes containing the lagoon; and the continuance of the surveillance network program (SNP) which requires the Municipality to sample and analyze effluent from the lagoon;
- B. the water treatment plant; access to the plant's raw water source in Geraldine Lake; the formulation of a spill contingency plan for the plant;
- C. solid waste disposal and reduction; the elimination of open burning at the existing dump; the development of a long-term solid waste management plan; implementing recycling initiatives; and the treatment of hazardous wastes;
- D. abandonment and restoration of abandoned solid wastes sites in the Municipality of Iqaluit;
- E. the approval and construction of a sewage treatment system, including its operation and maintenance and the disposal of sludge;
- F. jurisdiction of the NWB to address the enforcement of licensing provisions; and
- G. the circulation of the draft licence to all parties.

III. Summary of Evidence

A. Department of Sustainable Development Nunavut- Environmental Protection (EP)

EP made an initial submission to the NWB regarding the Municipality of Iqaluit's application for a water licence on July 9, 1999. In its initial submissions, EP suggested that the existing lagoon be upgraded and left in place as an emergency discharge repository. And while EP approved the plan to compost sludge, EP suggested that pilot testing first be conducted to determine if this option is feasible. EP also recommended in its initial submissions that the water licence include a provision to ensure that the Municipality of Iqaluit closely monitor the structural integrity of the dyke.

EP also suggested that the water licence contain a provision requiring the Municipality to develop a contingency plan for the water treatment plant. According to EP, this plan should include a training program for water plant employees and a description and use of all spill response equipment.

With regards to solid waste management, EP recommended that the waste management plan, required by the water licence, include a provision that properly addresses solid waste volume reduction of garbage in a proposed new solid waste disposal facility. EP noted in its initial submissions that burning is likely to continue at the current dump, but suggested that it be limited to paper products and untreated wood.¹

EP recommended that the water licence contain a stipulation that would require the Municipality to develop and present for review, a plan for the establishment of a new solid waste disposal facility and an accompanying comprehensive waste management plan. EP further recommended that acceptance of the proposed plan should be subject to approval by the appropriate regulatory agencies. In addition, EP recommended that the Municipality develop and execute a program to address recycling options as a means of reducing the volume of solid waste.

¹

EP further recommended that the municipality consider obtaining an incinerator for Iqaluit.

While EP was in agreement with the proposed ZenoGem sewage effluent treatment system, it recommended that the water licence contain a stipulation that requires the Municipality to develop and present for review, comprehensive and realistic abandonment and restoration plans for *all* former and current sewage disposal sites in Iqaluit, within one year of the issuance of the water licence. And EP noted that acceptance of the plans should be subject to approval by the appropriate regulatory agencies.

B. The Baffin Regional Health and Social Services (BRHSS)

The BRHSS noted in its initial submission² that before licence approval was granted, more information was required on the proposed method and schedule for the abandonment and restoration of the present sewage lagoon. The BRHSS also requested more information on the proposed O & M Plans for the Waste Water Reclamation Facility and the proposed method of treating and disposing of de-watered sludge from the Waste Water Reclamation Facility.

With regards to the proposed water plant, the BRHSS recommended that system upgrades be implemented to meet increasing community water demand to support residential expansions. BRHSS also suggested that more information be provided on specific short-term upgrades planned for this system, including a schedule for completion.

On the issue of solid waste management, the BRHSS indicated that a short and/or long term Solid Waste Management Plan (but not a study) is required. According to BRHSS, central to a new Solid Waste Management Plan is the requirement for a *new* solid waste facility. The BRHSS further recommended that the Municipality encourage new recycling initiatives, a recycling program and system development.

² The BRHSS made initial submissions to the NWB regarding the Town of Iqaluit's application for a water licence on July 9, 1999.

C. The Department of Fisheries and Oceans (DFO)

DFO suggested in its initial submission that the Municipality investigate the possibility of using the existing sewage lagoon as a backup facility. If the sewage lagoon was used, DFO recommended that the Municipality monitor the integrity of the existing dykes while using the sewage lagoon.

On the issue of solid waste management, DFO recommended that there be no uncontrolled burning at the site and that the Municipality ensure that garbage is sorted when brought to the dump. DFO also suggested that the Municipality consider a proportional fees structure for industrial users. DFO further recommended that plans for a new solid waste management facility should be made a condition of the licence renewal. If an incinerator is chosen, DFO suggested that the Municipality modify the existing site to house the ash.

DFO expressed concerns over abandonment and restoration of waste sites within the Municipality. In its initial submissions, DFO recommended the Municipality initiate a study to determine what is contained in the Municipality's abandoned sites. This study should identify drainage patterns around the sites which may affect receiving water bodies. DFO recommended that the Municipality submit a revised Abandonment and Restoration plan to the NWB for the abandoned sites, including an implementation schedule and long-term monitoring program, and that the Municipality determine ownership of the remaining abandoned sites. As well, the DFO recommended that the Municipality submit an abandonment and restoration plan for the sewage lagoon before the opening of the new sewage facility. DFO recommended that an abandonment and restoration plan be developed for the dump.

DFO also recommended that a construction/operational schedule be submitted for the new sewage treatment facility and that the schedule be incorporated as a condition of the water licence renewal. DFO requested that the Municipality provide the following information on the sludge: the composition of the sludge; the method and location of sludge storage; the length of time required to compost sludge in a northern environment; and the potential use as a greening material. Furthermore, DFO noted that any abandonment and restoration plan ought to include environmental studies to

identify the composition of sludge from the existing lagoon, and determine whether the new facility is able to process it.

D. The Environmental Protection Branch, Prairie and Northern Region, Environment Canada (EC)

In its initial submission, due to concerns that effluent from the sewage treatment facility will enter Frobisher Bay, EC recommended that bioassay tests be included as a condition of the licence SNP, on a four times yearly basis. In addition, EC recommended that the transition to the new facility be made as soon as possible, in order to improve the quality of effluent currently entering Frobisher Bay. EC also recommended that the dykes in the existing sewage facility should be regularly monitored while in use. Regarding the integrity of the dykes, EC recommended that a geotechnical inspection be done during the open water season, and necessary remedial measures identified. EC also suggested the possibility of keeping the present lagoon intact as backup facility. EC noted that the lagoon could be used as a holding pond for trucked sewage prior to routing through the new system, as a surge pond for temporary storage for unexpectedly high sewage flows, or for extra effluent prior to release in the environment. Regardless of what plan is chosen, EC recommended that the Town be required to evaluate the options before deciding the final fate of the lagoon, and noted that any plan should address supernatant treatment, sludge testing and disposal options, and final reclamation measures.

Regarding solid waste management, EC recommended that there be no uncontrolled burning permitted at the dump. EC further recommended that hazardous materials waste stream should be characterized, and that provision be made for secure storage and handling of hazardous wastes.

For the new landfill site, EC recommended that the Town develop a practical plan which includes planning site engineering, operation, and final abandonment and reclamation. EC also recommended that the new landfill site should include an area for land farming of hydrocarbon-contaminated soils.

With regards to the abandonment of existing sites, EC recommended that all abandoned waste sites be identified and classified for site contents, ownership and responsibility for site restoration. Further, EC suggested that drainage patterns around these sites should be verified, relative to receiving water bodies. In response to the Town's request to remove sampling stations and reduce the frequency for SNP testing, EC recommended that the Town be required to provide all past samples and a rationale explaining why these sites and parameters should no longer be monitored.

As well, EC recommended that a proactive plan should also be developed aimed at reducing waste generation, and firm funding commitments for this made by the Municipality, with final designs and schedules drawn up as soon as possible, and made a requirement under the new licence. EC noted that improvements were required in the means of reducing solid waste volumes other than through burning, e.g., incineration, and development of a new waste facility. EC also recommended that the licence renewal be circulated as a draft for review by intervenors such that comments could be made for consideration by the NWB. Lastly, EC recommended that the licence duration be limited to the time frame of the implementation schedule for the proposed system changes.

E. The Department of Indian Affairs and Northern Development (DIAND)

DIAND made an initial submission to the NWB regarding the application of the Town of Iqaluit's application for water licence renewal. DIAND recommended in its initial submission that the existing SNP stations should remain and that additional stations may have to be added to address the proposed Sewage Disposal Facility and monitoring of any additional waste disposal sites. DIAND also recommended that the >sampling and analysis= requirements remain in the Renewed Water Licence, until the Municipality has not only implemented approved Abandonment and Restoration Plans but can also demonstrate that the run-off is not affecting downstream waters.³

³ DIAND also suggested that provisions be included that require the Municipality to provide justification before the Municipality is able to remove and/or reduce the sampling requirements under the SNP. DIAND further suggested that provisions be included which require the Municipality to collect water and effluent quality samples. And further, that the samples be submitted to an accredited environmental laboratory.

In order to ensure that quality of the water in Iqaluit is properly monitored and controlled, DIAND suggested that the Municipality be required to submit a Quality Assurance/Quality Control (QA/QC) Plan to the Departmental Analyst designed under the Northwest Territories Waters Act for approval within three months following licence issuance. The DIAND recommended in its initial submissions that the requested increase for the water use limit be approved to reflect the increasing population. In addition, the Department recommended the Municipality document the annual water use volumes during the next licence term.⁴

DIAND recommended that provisions be included that require the Municipality to have the Lake Geraldine Reservoir Dam inspected within six months of the licence issuance and during open and high water conditions, by a qualified geotechnical engineer. As well, the engineer=s reports shall be submitted to the Board within 60 days of inspection.

DIAND recommended that the Spill Contingency Plan requirements remain in the renewed Water Licence and that the Board review any plans regarding the Spill Contingency Plan in a timely manner.

DIAND recommended that the Licensee be required to submit construction approvals to the NWB a minimum of 60 days prior to the commencement of the project.⁵

DIAND further recommended that the Board adopt a key leadership role by working closely with the Municipality in solving the complex issues surrounding waste management in Iqaluit.⁶ DIAND

⁴ With regards to water supply, DIAND recommended that the Municipality consider options to access the ridged portion of Geraldine Lake. DIAND also suggested that the Municipality implement water conservation methods so as to ensure sufficient raw water supply is available throughout the year and for the duration of the licence. In addition, DIAND suggested that the Municipality address whether additional sources would be required to meet raw water demand during the licence term.

⁵ DIAND also recommended that the design drawings should require the stamp of a qualified geotechnical engineer, in the Northwest Territories, whose principal field of specialization is the design and construction of earthworks in a permafrost environment.

⁶ These issues include the following: uncontrolled burning; burning after normal business hours; limited recycling programs; expansion of the metal recycling program and the addition of the recently constructed berm to restrict the previous uncontrolled discharge of water into two cells of the current waste disposal site.

recommended that Iqaluit be required to submit a revised Waste Management Plan, and that major issues and concerns should be discussed and reviewed in consultation with the Board and stakeholders.

DIAND recommended that one and Restoration Plan be submitted by Municipality to form the framework for all additional site specific waste disposal sites and that all plans be subject to review and approval, but that the Licensee is provided specific dates as to when the revised plan is due for re-submission.

DIAND also made submissions to the NWB on October 25, 1999; in particular, DIAND was concerned with the Nunavut Water Board=s jurisdiction. The DIAND submitted that the NWB must confine itself to its authority to regulate matters relating to water.⁷

DIAND also made submissions relative to the Board=s authorities concerning enforcement.⁸

On November 5, 1999, DIAND reiterated its position on the Board=s jurisdiction by stating that (i) open burning of solid waste, (ii) airborne emissions produced by open burning, (iii) recycling, are beyond the NWB=s jurisdiction. As well, DIAND was of the opinion that enforcement of licensing provisions was beyond the NWB=s jurisdiction.

DIAND further commented about the Municipality=s stated intention to build a storage facility for sludge cakes generated by the sewage treatment plant. DIAND noted that such a facility would of

⁷ The DIAND suggested that the Board did not have the authority to regulate emissions pertaining to conditions appurtenant to the licence because there was not a substantial or reasonable link to the use of water or deposits on water or a controlling of waste entering water. With respect to the imposition of licensing conditions by the NWB regarding recycling, DIAND submitted that the subject was not within the Board=s jurisdiction. Similar to the emissions issue, the DIAND suggested there was not a substantial enough link between recycling and the use or protection of water.

⁸ The DIAND suggested that the Board make provisions in the licence clarifying the responsibility for enforcement. The DIAND further suggested that the provision should include notice that a violation of the licence will constitute a violation of the *Northwest Territories Waters Act*, and will be subject to punishment under the authority of that Act. The DIAND further noted that any licence condition purporting to give an Inspector under the Act the power to fine ought to be omitted as an excess of jurisdiction by the NWB and a Charter violation.

necessity be related to water use or the deposit of waste into water; accordingly authorization would have to be obtained from the NWB via a water licence.⁹ In the same submission, DIAND also asked the NWB to circulate a draft licence for review.

F. Mr. Mason

Mr. Mason recommended that attention needed to be paid to wind patterns and that no burning ought to be permitted during any time of the year when the wind direction could cause smoke from the landfill to move into the community. In particular, Mr. Mason thought that no burning should occur between April 15th and October 1st when the wind direction could cause smoke from the open burn to move over the causeway area or the Sylvia Grinnell Park area. Mr. Mason also recommended that the Municipality state how further separation of waste will be accomplished at the solid waste site and how the Municipality will be encouraging re-use and re-cycling of waste materials. In addition, Mr. Mason recommended restoration of the dump as well as diversion of any runoff.

G. Amarok Hunters & Trappers Association (Amarok)

The Amarok submitted initial submissions to the NWB regarding the water licence for Iqaluit. The Amarok expressed concerns over the Municipality's current solid waste treatment and its current practice of open burning. The Amarok's concern over the solid waste treatment focused on possible negative impacts to the environment and people.

The Amarok also raised the issue of the possible negative effects of the existing sewage lagoon on the marine ecosystem. The Amarok urged the prompt cleanup of the old dumps within the Municipality and the replacement of old technology with more environmentally friendly technology.

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DIAND also commented on the EP's recommendation that acceptance of a proposed plan should be subject to approval of regulatory agencies. The DIAND noted that such a condition might be viewed as giving the regulatory agencies a veto power, and the DIAND remarked that the ultimate power to approve or reject a plan rests with the NWB alone.

The Amarok also noted the possibility that toxic leachate may presently be running from the old dump into Tarr Inlet and polluting the Municipality's marine ecosystem. Finally, the Amarok made a point of commenting on the Inuit's traditional practice of living in harmony with the natural environment and suggested that this should continue to be a top priority in Municipal practices.

H. Municipality of Iqaluit (Iqaluit)

Iqaluit acknowledged that the preliminary Sewage Treatment Facility drawings submitted to the NWB did not meet the needs of the Board for the purposes of making a final decision and for that reason, Iqaluit submitted final design drawings at the public hearing. Iqaluit also committed that the new system will meet all discharge requirements established by the NWB.

In its October 25, 1999 submission, Iqaluit provided information on current actions being taken by the Municipality and its future plans. These plans include:

- X the current renovation of the Water Treatment Plant with the replacement of pumps, and the re-building of the chlorine storage room;
- X the construction of a new sewage treatment plant (currently in progress)
- X abandonment and restoration of present sewage lagoons;
- X building a facility for the proper storage of sludge cakes from the sewage treatment plant;
- X the recognition by the Municipality for a comprehensive Solid Waste Management Plan which will address appropriate methods of disposing of solid waste, restoration of existing waste sites, and the implementation of re-cycling programs;
- X the Municipality retained an environmental consulting team to develop and the implement a Solid Waste Management Plan; and
- X Iqaluit re-iterated its request for a licence term of six years.

I. Community Government and Transportation (CGT)

The CGT of Nunavut made submissions to the NWB on September 17, 1999 during the first round of submissions regarding the Town of Iqaluit's application for a water licence. In its submission,

the CGT expressed concern over the fact that the Town of Iqaluit had proceeded to construction of a sewage treatment plant prior to the issuance of a construction approval by the NWB.

J. Nunavut Tunngavik Incorporated (NTI)

The NTI made submissions to the NWB during the 2nd Round of Submissions re: Public Hearing on October 30, 1999, primarily regarding the extent of the Nunavut Water Board=s jurisdiction.¹⁰

K. Nunavut Department of Justice (NDJ)

The NDJ also made submissions regarding the jurisdiction of the NWB, on November 5, 1999.¹¹ NDJ submitted that it is well within the Board=s mandate and jurisdiction to consider and implement measures which address monitoring and enforcement concerns in the issuance of the Town of Iqaluit=s Municipal Water Licence. In fact, the NDJ suggested that the NWB=s jurisdiction must be exercised to connect the terms imposed from the potential impacts of burning on territorial waters which, according to the NDJ, evoke concerns relating to public health or environmental stewardship. Unlike DIAND, the NDJ does not see the connection (between regulating burning emissions and water protection) as a difficult one to establish.

L. Mr. Paul Crowley

¹⁰ NTI submitted that when the NWB was established in July, 1996, it assumed the powers of the Northwest Territories Water Board under the *Northwest Territories Water Act* in Nunavut, except to the extent of inconsistency between the Act and *Nunavut Agreement*. The NTI noted that the *Northwest Territories Waters Act* continues to apply in Nunavut by virtue of s. 29(4) of the *Nunavut Act*. Accordingly, it was NTI=s submission that water licences issued by the NWB are fully enforceable under the provisions of the *Northwest Territories Waters Act*. Therefore, enforcement of NWB licences are available through the provisions allowing for security, inspection, remedial measures, penalties and licence cancellation by the NWB. NTI also submitted that a non-compliant water licence holder may be subject to additional remedies under territorial legislation.

¹¹ The NDJ submitted that while there is no *Nunavut Waters Act* in place yet, NDJ argues that the enforcement provisions of the *Northwest Territories Waters Act* may continue to operate in Nunavut under the authority of s.29 (4) of the *Nunavut Act* which provides for the continued operation of the Act until it is repealed, amended altered or rendered inoperable in respect of Nunavut.

Mr. Crowley submitted that the NWB regulate activities in a manner which best reflects reality, suggesting that the NWB exercise its jurisdiction to regulate emissions from burning at the dump. On the issue of enforcement, Mr. Crowley submitted that the NWB ought to refrain from issuing any licence that does not contain real and effective enforcement mechanisms.¹²

Lastly, Mr. Crowley criticized the NWB for a failure to facilitate meaningful public participation in the hearing.¹³

¹² If, for example, it is evident that the NWB cannot properly enforce standards of air emissions from the dump, Mr. Crowley submits, the NWB should explicitly prohibit burning to take place under its water licence.

¹³ Mr. Crowley was of the view that many residents of Iqaluit did not and possibly still do not know the extent of what the water licence hearing would be covering. Mr. Crowley further suggested that in the next hearing the proponent should bear some of the burden of ensuring meaningful public participation.

III. Analysis

A. Remediation of the existing sewage lagoon.

(i) The use of the existing sewage lagoon as a back-up facility.

The existing sewage lagoon is a facultative lagoon with a continuous discharge. The retention time is approximately 5 days. Previous study results from bioassay tests have indicated that, during warmer months, effluent from facultative lagoons is non-toxic. However, shortly after ice forms, the performance of the lagoon deteriorates and does not improve until after spring break-up. The Municipality has indicated that the old sewage lagoon will be remediated and filled in, and the old sludge will be composted/treated.

Several parties presented submissions on the issue of the existing sewage lagoon. EP for example suggested that the existing lagoon be upgraded and left in place as an emergency discharge repository.¹⁴ This position was supported by DFO which recommended that the Municipality investigate the possibility of leaving the lagoon intact as a backup facility.¹⁵ The EC was in agreement as well,¹⁶ and recommended that the existing sewage lagoon be kept as a surge pond for temporary storage for unexpectedly high sewage flows, or for extra polishing of effluent prior to release in the environment.

After reviewing all of the submissions on the fate of the existing sewage lagoon, and recognizing that the current sewage (non)-treatment is totally unacceptable, the NWB has decided to approve *in principle* the use of the existing sewage lagoon or part of it as a back up facility. Iqaluit is therefore required to submit to the NWB for approval a plan for the use of the existing sewage lagoon or part of it as a back-up or polishing facility; this plan shall also address in detail the abandonment and

¹⁴ Letter dated July 9, 1999 from the Nunavut Department of Sustainable Development to the Technical Advisor, NWB at p.2.

¹⁵ Letter dated July 9, 1999 from the DFO to the NWB at p.3.

¹⁶ Letter dated July 9, 1999 from the DFO to the NWB at p.4.

reclamation of any portion of the lagoon, and the final treatment and disposal of sludge from the lagoon.

(ii) Monitoring the integrity of the dykes.

Iqaluit's water application indicates the sewage lagoon dykes are satisfactory. The Board rejects this assertion due to the well-documented and extensive history of dyke breaches. In fact, the existing dykes may not be able to sustain the increase in volume until the new facility becomes operational. EP¹⁷, the DFO¹⁸ and EC¹⁹ have each recommended that the Municipality be required to monitor the integrity of the existing dykes while using the sewage lagoon. Amarok and other parties are concerned with the potential negative effect that the sewage lagoon is having on the marine ecosystem.²⁰

The NWB agrees that the satisfactory maintenance of the dykes is critical to the protection of adjacent waters. Therefore, the NWB concludes that the effective monitoring of the dykes will be a requirement of the Water Licence. The dykes shall be inspected in accordance with the Dam Safety Guidelines.²¹

(iii) The Surveillance Network Program (SNP)

The existing SNP requires the Municipality to sample and analyze effluent from the sewage lagoon and run-off from the waste disposal sites. The Municipality is also required to record the monthly and annual water usage in cubic metres from the Lake Geraldine Reservoir and record the annual quantity of sewage solids from the sewage disposal facility.

¹⁷ Letter dated July 9, 1999 from the EP to the Technical Advisor, NWB at p.2.

¹⁸ Letter dated July 9, 1999 from the DFO to the NWB at p.3.

¹⁹ Letter dated July 9, 1999 from the DFO to the NWB at p.4.

²⁰ Letter dated May 18, 1999 from the Amarok Hunter & Trapper Association to the Technical Advisor, NWB at p.1

²¹ Canadian Dam Safety Association, January 1, 1995

The Board has decided that the same requirements regarding the SNP in the current licence will be included in the new licence, including for the monitoring of PAHs and PCBs as Iqaluit has not provided justification to remove and reduce the monitoring requirement.²² In addition, the NWB has accepted the recommendation of the EC, and included the requirement for bioassay testing to be done four times yearly. The Board notes that the Municipality of Iqaluit did not object to this request at the hearing and that EC offered to provide assistance to the town to perform the test.²³

B. The Water Treatment Plant

(i) Water Use

The Municipality obtains raw water from Lake Geraldine where it is pumped to the Water Treatment Plant and reservoir. The raw water is treated through the use of pre-chlorination, pH control, settling tanks, filtration, and fluoridation. Potable water is distributed through a heated pipe system and truck delivery system. The current Water Licence water use limit is 1.1 million cubic metres per year.

The Board has reviewed the submissions and agrees to maintain the current water use volume in light of the increasing population²⁴. As noted above, the NWB has determined that the existing provisions regarding monitoring water use volumes in the SNP will be maintained in the new licence.

(ii) Accessing the ridged section of Geraldine Lake.

There is a naturally occurring rock ridge in Geraldine Lake which may cause water to be trapped in the ridged section during low water conditions. This potentially could cause a water shortage during

²² The maintenance of the existing SNP was supported by the DIAND. This position was supported by EC who further recommended that bioassay testing be included as a condition of the licence SNP, on a four times yearly basis.

²³ Public Hearing Transcript, page 46.

²⁴ The Municipality has requested the approval of 1.1 million cubic metres/year of raw water from Lake Geraldine. The BRHSS and the DIAND made submissions regarding the Municipality=s request for approval of a 1.1 million cubic metres/year. Both parties were in support of the Municipality=s request to the water use limit. DIAND submissions of July 9, 1999 at page 4.

periods of high water use with ice cover and, prior to the run-off period when Lake Geraldine may not recharge quickly enough to compensate for increased water consumption.

The Municipality has previously indicated that they may require additional and emergency raw water sources. The NWB has reviewed the evidence on the Geraldine Lake issue, and concludes that it is necessary to ensure an adequate long-term water supply for the Municipality. The Town agrees that there is a lack of supporting hydrological data on the Lake Geraldine watershed.²⁵ Accordingly the NWB requests detailed hydrological information and in particular storage volume of Lake Geraldine. Iqaluit shall also identify alternative water source options including the possibility of accessing the ridged portion of Lake Geraldine as recommended by DIAND.²⁶

(iii) Inspection of the Lake Geraldine Reservoir and Dam.

The DIAND also made a recommendation to the NWB that the Lake Geraldine Reservoir Dam be inspected within six months of the licence issuance and during open and high water conditions, by a qualified geotechnical engineer and that the engineer's report be submitted to the Board within 60 days of inspection.²⁷ The NWB agrees with this recommendation for engineering reasons to ensure safety in all respects, and orders the inspection of the Lake Geraldine Reservoir and Dam in accordance with the Dam Safety Guidelines²⁸.

(iv) Spill Contingency Plan.

The Current Water Licence requires the Municipality to submit a Spill Contingency Plan (Part D, Item 10) to the Northwest Territories Board by June 30, 1996. The Licensee submitted the Plan to the NWB in June, 1998; this plan was deemed deficient by the NWB. The NWB requested the re-submission of the plan in accordance with recommendations submitted to Iqaluit on July 13, 1999.

²⁵ Public Hearing Transcript, page 32, Denis Bédard

²⁶ DIAND and made recommendations that the Municipality be permitted to access the ridged section of Geraldine Lake. DIAND submissions of July 9, 1999 at page 4.

²⁷ DIAND initial submissions, dated July 9, 1999 at page 5.

²⁸ Canadian Dam Safety Association. Edmonton, Alberta. January 1, 1995.

The EP²⁹ and the DIAND made submissions on the issue of a Spill Contingency Plan. Both parties recommended that the water licence contain a provision requiring the Municipality to develop a spill contingency plan. The Board has considered the spill contingency requirements and concluded that as a matter of public safety and environmental protection, it will require the Municipality to submit a revised spill contingency plan in accordance with the recommendation previously provided by the NWB. Accordingly, a provision is included in the attached licence.

(v) Conditions on Construction.

The current Water Licence requires the Municipality to submit to the Board for approval the design drawings certified by a qualified engineer in the Northwest Territories of any dams, dykes or structures intended to contain, withhold, divert or retain water or waste, *prior to their construction*. The municipality submitted design plans for the reservoir building and the 1.5 metre raising of the Lake Geraldine Reservoir Dam, the as-built drawings were submitted to the NWB.³⁰

The NWB agrees with the need for stricter conditions on future construction. The NWB has concluded that there will be a 60-day review period of construction drawings, and that these must be approved by a qualified engineer in Nunavut.

²⁹ EP recommended that the water licence contain a provision for the Municipality to develop a contingency plan for the water treatment plant. This plan should include a training program for water plant employees and a description and use of all spill response equipment. See letter dated July 9, 1999 from the Nunavut Department of Sustainable Development to the Technical Advisor, NWB at p.2.

³⁰ DIAND recommended (Initial submissions of DIAND at page 11) that the Municipality be required to submit the construction approvals to the NWB a minimum of 60 days prior to the commencement of the project, and that the design drawings should be stamped by a qualified geotechnical engineer, in the Northwest Territories, whose principal field of specialization is the design and construction of earthworks in a permafrost environment.

C. The Landfill

(i) The Long-term Plan.

During the previous water licence application hearing in 1995, the approval stipulated that open burning as a means of volume reduction was permitted *provided* that the Municipality developed a long-term (post-temporary site) plan. This plan was to be carried out within two years. A plan was submitted by the Municipality in 1998 but it was determined to be deficient and the NWB provided comments to the Licensee on June 10, 1999. Almost all of the parties expressed concerns regarding the need for a comprehensive plan to address the problems associated with the landfill and the other waste sites in the Municipality.³¹

The current facility is expected to reach capacity within 6 months and to date, the Municipality does not have any immediate plans as to what actions are being planned for solid waste management in the first half of 2000. Although there is a pressing need to find a solution to the landfill problem, in the absence of good information the NWB cannot approve a landfill which may lead to potentially negative long-term water quality consequences. At the public hearing we learned that the Municipality has, with the financial support of the Government of Nunavut,³² engaged consultants to assist in putting in place a comprehensive Solid Waste Management Plan.³³ The Municipality

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- ⊖ EP recommended that the water licence contain a stipulation that requires the Municipality to develop and present for review, a plan for the establishment of a new solid waste disposal facility and accompanying comprehensive waste management plan. See letter dated July 9, 1999 from the EP to the Technical Advisor, NWB at p.3.
- ⊖ The BRHSS indicated that a short and/or long term Solid Waste Management Plan (note: not a study) is required. See letter dated July 9, 1999 from the BRHSS to the NWB at p.1.
- ⊖ DFO recommended that plans for a new facility be a condition of the licence renewal. If an incinerator is chosen, it is recommended the Municipality modifies the existing site to house the ash. See letter dated July 9, 1999 from the DFO to the NWB at p.4.
- ⊖ The DIAND recommended that a plan was necessary. Initial submission of DIAND at page 4.
- ⊖ EC recommended that a proactive plan should also be developed aimed at reducing waste generation, and that firm funding commitments be made by the Municipality, with final designs and schedules drawn up as soon as possible, and those be required under the licence. Submissions from the EC to the NWB dated July 9, 1999 at p.5.

³² Department of Community Government and Transportation.

³³ The Municipality of Iqaluit has recognized a need to put in place a comprehensive Solid Waste Management Plan to:

- ⊖ Find a new, appropriate, method of disposing of their solid waste;
- ⊖ restore three waste sites around Iqaluit including the Apex Dump, the Iqaluit Landfill Site, and the

expects the development process of this plan will be tabled no later than March 31, 2000. The NWB has decided that it is best to defer landfill approval until the study is completed, tabled, and approved by the Board. This information will be assessed by the Board and interested parties and reviewed at the next Iqaluit hearing (discussed below).

(ii) Open burning at the dump.

At present, the Municipality currently practices open burning at the dump. Wind blows garbage from the dump across the tundra or into the water. This has no doubt harmful to marine³⁴ and freshwater aquatic life. Emissions from the burning garbage, including potential dioxins can be released into the air and transported to the surrounding area. If so, runoff from the rain and spring melt may carry contaminants from the dump into the surrounding land and the water.

Due to uncontrolled burning the fire department has been called to the site 10 times from June 1st, 1998 to June 30th, 1999.³⁵ There has been considerable concern over the resulting potential effects on human health and the environment. Complaints have been lodged regarding the noxious smoke. Everyone recognizes the problems associated with open burning at the dump. Some parties recognized the practical necessity of burning in Iqaluit given the Municipality=s circumstances regarding the limited space for landfill. Others strongly feel that the need to prevent potential harm resulting from emissions³⁶ is paramount and therefore wish an immediate halt to the open burning.³⁷

The NWB recognizes that the landfill is an environmentally sensitive area but for the reasons noted above, it has decided to refrain from issuing a decision regulating air emissions until the solid waste management plan is reviewed and approved by the Board. The landfill will continue to operate in

☐ present temporary site; and
Start a recycling program.
See Municipality=s letter dated October 25, 1999, to the Executive Director, NWB at p.2.

³⁴ The Board does not have jurisdiction over marine water.

³⁵ Letter dated July 9, 1999 from the DFO to the NWB at p.4.

³⁶ Letter dated November 5, 1999, from Mr. Paul Crowley to the NWB, at p.1. Letter dated May 18, 1999, from the Amarok Hunter & Trappers Association to the Technical Advisor, NWB.

³⁷ Letter dated July 9, 1999 from the DFO to the NWB at p.4.

accordance with Iqaluit's approved Operations and Maintenance Plan, subject to the restrictions currently in place and all levels of government (BRHSS, municipal, federal, territorial) will continue to monitor and enforce as per their respective legal responsibility.

(iii) Jurisdiction of the NWB to regulate burning.

The issue of burning raised another issue related to the jurisdiction of the NWB. The DIAND submitted that the regulation of burning was beyond the scope of the NWB's jurisdiction because it does not relate to the use of water or the deposit of waste on or into water.³⁸ The DIAND argued that there must be a substantial link between the subject matter and the regulation of water. According to the DIAND, the link between the emissions resulting from burning at the dump and the regulation of the use of water would be difficult to establish. The NDJ disagrees, at least in part.

We prefer the position advocated by the NDJ, which submitted that the link³⁹ between the emissions and water quality is not a difficult one to establish.

The NWB concludes that the link between emissions and water quality would probably not be hard to establish and that once established, the NWB has jurisdiction to regulate air emissions. Indeed, the issue is not emissions at all, it is *waste*. Section of the NLCA 13.7.1 states: A... no person may use water or dispose of *waste* into water without the approval of the NWB.≡ The definition of waste is broad. Section 2 of the Northwest Territories Waters Act defines waste to include:

- A. any substance that, if added to water, would degrade or alter or form part of a process of degradation or alteration of the quality of the water to an extent that is detrimental to its use by people or by any animal, fish or plant, or
- B. water that contains a substance in such a quantity or concentration, or that has been so treated, processed or changed, by heat or other means, that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water to the extent described in paragraph (a),

³⁸ Letter dated October 25, 1999 from DIAND to NWB at page 2, and letter dated November 5, 1999 from DIAND to NWB.

³⁹ Letter dated November 5, 1999 from the NDJ to the NWB at page 2.

- C. and without limiting the generality of the foregoing, includes
- D. any substance or water that, for the purposes of the *Canada Water Act*, is deemed to be waste,
- E. any substance or class of substances prescribed by regulations made under subparagraph 33(1)(b)(i),
- F. water that contains any substance or class of substances in a quantity or concentration that is equal to or greater than a quantity or concentration prescribed in respect of that substance or class of substances by regulations made under subparagraph 33(1)(b)(ii), and
- G. water that has been subjected to a treatment, process or change prescribed by regulations made under subparagraph 33(1)(b)(iii).

Waste is defined in Funk and Wagnall's Standard Dictionary (page 1514) to include Agarbage, rubbish, trash⁴⁰. In the circumstances of the town of Iqaluit, where solid waste is dumped unsorted, dozens of materials could through burning (or leachate), enter fresh waters.

At this time we acknowledge that there is a lack of evidence to firmly establish a link between waste from air emissions and water quality. Accordingly, the NWB has decided that investigative/monitoring studies are needed to demonstrate whether this causal link exists and, if so, its significance.

The NWB, therefore, orders that appropriate studies be performed to establish the evidential proof or lack thereof that there is a link between the emissions that result from burning at the landfill and fresh water. In the event that emissions monitoring establishes sufficient proof of the effect of burning and water quality deterioration, the NWB will at that point exercise its jurisdiction to regulate burning at the landfill and will do so if necessary by amendments to the licence. The Licensee is therefore required to submit to the Board for approval the Terms of Reference for an investigative monitoring program to address, among other things, whether there is a linkage to the current dump as point source of contamination; the potential contaminants of concern determined

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These materials include: commercial waste, hazardous waste, medical waste, institutional waste, inorganic waste, post-consumer waste, toxic waste, sanitary waste, solid waste, street waste, organic waste, municipal waste, bulky waste, chemical cleaning waste, household hazardous waste, mixed waste, industrial refuse, infectious waste, household waste.

through air emission testing; and, the levels of water quality contamination. The Terms of Reference shall consider but are not limited some or all of the following, in addition to air emission testing, water sampling, sediment sampling, precipitation sampling, snow pack sampling, toxicity testing, and gradient station sampling.

(iv) Re-cycling.

The current recycling practice in Iqaluit is not effectively diverting recyclable material from the general waste stream.⁴¹ Almost all of the parties recognize the merit of and the need for recycling.⁴² And while the NWB supports the need to employ recycling practices, the Board does not see the direct link in this case B at least not between recycling bottles and the deposit of waste into water. In conclusion, the NWB strongly encourages any action on the Municipality=s behalf to recycle bottles but the NWB does not have the jurisdiction to regulate it, at least not based on the submissions we have received.

D. Abandonment and Restoration of Existing Solid Waste Sites.

The AMunicipality of Iqaluit Solid Waste Management Study≡ lists six abandoned solid waste sites around Iqaluit. The NWB has a number of comments on the study. First, the management plan was not approved by the NWB. As well, the abandonment and restoration plans listed in the application were reviewed and found to be deficient. Second, as noted above, no plan was developed that properly addresses the issue of abandonment and restoration in the Municipality of Iqaluit. Obviously, the NWB is aware of the pressing need to deal with these environmentally sensitive and

⁴¹ Approximately 12,000 plastic bottles are produced every day at the Coca-Cola bottling plant at Iqaluit. There is a recycling depot in Iqaluit but the operator has been forced to store a large quantity of aluminum cans at the landfill site due to a tremendous backlog of stored material.

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⊘ Letter dated July 9, 1999 from the EP to the Technical Advisor, NWB at p.4.
⊘ Letter dated July 9, 1999 from the BRHSS to the NWB at p.1.
⊘ Submissions of the EC to the NWB dated July 9, 1999 at p.5.

potentially hazardous sites. As well, the NWB is sympathetic to the concerns of those wishing to see these sites immediately dealt with.⁴³

The NWB, however, simply cannot make a decision in this licence application, at this time, because it does not have adequate information before it. Accordingly the NWB has decided to await the final report of the consultants engaged by the Municipality to assess the situation and review the plan, and then approve or reject it.

Again, this review will occur at the next hearing in the fall 2000. The NWB feels that this time period will allow for three beneficial things to occur: first, the adjournment will allow for the consultants to complete their report which will be circulated to participants in April/May and this will facilitate an informed decision by the NWB at the next hearing; second, this will allow time for testing to be completed to find any link between airborne emissions from the dump and fresh water; third, the time will allow for any possible agreement on monitoring and/or enforcement to be reached between DIAND and the Nunavut Government.

E. The Sewage Treatment Plant

The proposed sewage treatment system is the ZenoGem Filtration system. Raw sewage treated by the new facility will produce a liquid effluent allegedly with excellent environmental qualities, and a sludge-like material. The effluent will be released into Frobisher Bay (Koojessee Inlet), and the sludge will be stored. The need to replace the existing (out-dated) technology⁴⁴ with more environmentally sound technology was recognized by almost all parties at the hearing.⁴⁵ Two

⁴³ Letter dated May 18, 1999 from the Amarok Hunter & Trapper Association to the Technical Advisor, NWB at p.1.

⁴⁴ Letter dated July 9, 1999 from the Nunavut Department of Sustainable Development to the Technical Advisor, NWB at p.2.

⁴⁵ See, e.g., Letter dated May 18, 1999 from the Amarok Hunter & Trapper Association to the Technical Advisor, NWB at p.1

parties, the EP and the DFO,⁴⁶ recommended the NWB approve the proposed sewage treatment system. Both parties, however, also requested that the Municipality provide more information on the composition and the planned treatment of, the sludge.^{47 48} The BRHSS also requested additional information on the proposed method of treating the de-watered sludge from the Waste Water Reclamation Facility. The Solid Waste Management Study referred above in Section C, Paragraph (i) shall provide long-term disposal and treatment options for sludge. Meanwhile, the Town shall submit to the Board interim sludge treatment and disposal options.

The DFO has recommended that a construction/operational schedule should be submitted for the new facility and that the schedule is incorporated as a condition of the water licence renewal. The NWB agrees that a schedule for implementation is essential to effective planning, because, unfortunately and regrettably, the Town has built the new facility before receiving approval from the NWB to modify the old system in contravention of Part G, Item 1 of Licence N5L3-0087.⁴⁹ This leap-froging of the approval process should never happen again. Furthermore, the Board notes that there is no correspondence in the NWB Public Registry to confirm or suggest that the DIAND Inspector designated to enforce licences issued under the *NWT Waters Act*, took any action with respect to this violation of a licence condition. The NWB is extremely disappointed by the absence of any enforcement, more so since the inspector's office is located in Iqaluit; the NWB urges DIAND in the strongest possible terms to take any action required to enforce the terms and conditions contained in licences issued under either the *NWT Waters Act* or the NLCA.

After reviewing the evidence and submissions relating to this issue the NWB has set the schedule for the operation of the sewage treatment plant to begin operation on or before February 1, 1999. The licensee shall submit an Operation and Maintenance manual prior to the discharge of any effluent.

⁴⁶ Letter dated July 9, 1999 from the DFO to the NWB at p.2.

⁴⁷ Letter dated July 9, 1999 from the EP to the Technical Advisor, NWB at p.1.

⁴⁸ Letter dated July 9, 1999 from the DFO to the NWB at p.2.

⁴⁹ Part G: Conditions Applying to Construction
1. Prior to construction of any dams, dykes or structures intended to contain, withhold, divert or retain water or Wastes, the Licensee shall submit to the Board for approval design drawings stamped by a qualified engineer registered in the Northwest Territories.

The DIAND also recommended that in relation to the new sewage treatment plant that the NWB adopt a key leadership role and works closely with the Municipality, Government of Nunavut, and stakeholders to coordinate the Water Licence conditions, timing and funding commitments, and the review and implementation of a new sewage treatment plant. The NWB agrees that it has a vital role to play in the development and application of the new Water Licence; the NWB will endeavour to meet its obligations arising from this role and strongly encourages others to do the same.

F. Jurisdiction of the NWB to address Enforcement of the Licensing Provisions.

The issue of the jurisdiction of the NWB to address the enforcement of licensing provisions was raised in the written submissions. The DIAND submitted that the NWB does not have the legislative authority to include enforcement provisions in the Water Licence.⁵⁰ NTI submitted that the NWB had the power by virtue of the *Nunavut Act* and the NDJ agreed.

It is NTI=s position that the NWB assumed the powers of the Northwest Territories Water Board under the *Northwest Territories Water Act* in Nunavut, except to any inconsistency with the *Nunavut Land Claims Agreement*. Accordingly, the NWB has the power to regulate enforcement of its licences by virtue of the provisions allowing for security, inspection, remedial measures, penalties and licence cancellation under the *Northwest Territories Water Act*⁵¹. The NDJ differs from the NTI=s interpretation of the legislation in the respect that it recognizes the authority of both the NWB under the *NTWA* and the authority of the federal government under *Northern Inland Waters Act*. The NDJ maintains that it is necessary to obtain administrative agreement on this issue to avoid duplication of powers.⁵²

⁵⁰ Letter dated October 25, 1999 from DIAND to NWB at page 5. Letter dated November 5, 1999 from DIAND to NWB at page 2.

⁵¹ Letter dated October 30, 1999 from the NTI to the NWB at p.2.

⁵² Letter dated November 5, 1999 from the NDJ to the NWB at p.3.

Another intervenor, Mr. Paul Crowley, submitted that it is less important to view *which* public body was properly delegated enforcement authority, than evidence that someone is in fact enforcing proper environmental controls--over all aspects of the permitted operation. Mr. Crowley further submitted that the NWB should refrain from issuing a Water Licence which does not contain real and effective enforcement mechanisms.⁵³

The NWB has carefully reviewed the relevant legislation and concludes that it does not have jurisdiction to appoint inspectors or establish an enforcement and penalty regime. The NWB derives its powers from the *Nunavut Land Claims Agreement*.⁵⁴ The Agreement provides for the regulation by the NWB of the use of waters and the deposit or discharge of waste into water. It does not, however, set out measure for enforcement or penalties for offences. These must be gleaned from the NWT Waters Act, or from the NIWA, to the extent that it as a reference point in the NLCA, might apply.

G. Circulation of Draft Licence

DIAND and Environment Canada have both recommended that the draft licence be circulated for review. The NWB does not accept this recommendation. However, by issuing a short-term licence and by deciding to reconvene in the fall of 2000, the Board is in effect giving all parties the opportunity to present additional submissions to the Board.

⁵³ Letter dated November 5, 1999, from Mr. Paul Crowley to the NWB at p.2.

⁵⁴ The Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada, signed May 25, 1993.

IV. CONCLUSION

For the reasons listed above and pursuant to Article 13 of the *Nunavut Agreement*, the Board approves the application for the Town of Iqaluit subject to the following conditions and the details provided in the licence attached in Appendix C:

- (A) The existing sewage lagoon may be used as an emergency back-up facility. A condition of the emergency use of the existing sewage lagoon is that 1 metre of freeboard will be maintained and the integrity of the dykes will be monitored.
- (B) System upgrades to the Water Treatment Plant and the Water Use Limit of 1.1 million m³ per year per year have been approved.
- (C) The NWB refrains from issuing a decision on the Landfill and the abandonment and restoration of existing waste sites until the consultant's final report is issued. The final report shall be submitted to the NWB by May 1, 2000. Public review of the written material, will occur during the summer of 2000, with a full public hearing in fall 2000.
- (D) The NWB orders the Municipality to conduct complete testing on the effect of airborne emissions from burning at the landfill on the quality of water in Geraldine Lake.
- (E) The NWB approves the construction of the new sewage disposal system.
- (F) In all other respects, the term of the Water Licence issued to the Municipality of Iqaluit is for one year, commencing December 31, 1999 and ending December 31, 2000. The term may be extended, subject to the results of the fall 2000 NWB hearing; and

- (G) The Board does not circulate the draft licence but will hold a hearing in the fall of 2000.

Dated December 15, 1999 at Baker Lake, Nunavut.

ORIGINAL SIGNED BY

Thomas Kudloo, Chairperson

APPENDIX A - LIST OF SUBMISSIONS AND CORRESPONDENCE

Application for water licence for the Municipality of Iqaluit. Received March 12, 1999.

Initial Submissions:

1. Letter dated May 18, 1999. Pitseolak Alainga, Chairman. Amarok Hunters & Trappers Association. Iqaluit.
2. Letter dated July 9, 1999 with AEnvironment Canada=s Submission to the Nunavut Water Board on an Application for Water Licence Renewal N5L4-0087 by the Town of Iqaluit, Nunavut.≡ Laura Johnston, Manager, Northern Division. Environment Canada. Yellowknife.
3. Letter dated July 9, 1999. Mason Marcel. Iqaluit.
4. Submission received July 9, 1999. ADepartment of Fisheries & Oceans Submission to the Nunavut Water Board on an Application for Water Licence Renewal N5L4-0087 By the Town of Iqaluit, Nunavut.≡ Department of Fisheries and Oceans.
5. Letter dated July 9, 1999 with APublic Hearing Submission to the Nunavut Water Board on the Application by the Municipality of Iqaluit for a Municipal Water Licence Renewal.≡ David Livingstone, Director. Department of Indian and Northern Affairs Canada. Yellowknife.
6. Letter dated July 9, 1999. AIqaluit Water Licence Application Comments.≡ Nichol Ritchie, Environmental Health Officer. Baffin Regional Health Services. Iqaluit.
7. Letter dated July 9, 1999. AIqaluit Water Licence Application.≡ Earl G. Baddaloo, Manager - Environmental Protection. Department of Sustainable Development, Government of Nunavut. Iqaluit.

1st Round of Submissions re: Public Hearing

1. Letter dated September 17, 1999. AIqaluit Sewage Treatment Facility.≡ Denis Bédard, Director. Municipality of Iqaluit, Iqaluit.
2. Letter dated September 17, 1999. AConstruction of Iqaluit Sewage Treatment Plant.≡ Michele Bertol, Manager, Capital Planning. Department of Community Government and Transportation, Government of Nunavut. Iqaluit.

3. Letter dated October 25, 1999. AGN Written submissions to the Nunavut Water Board.≡ Earl G. Baddaloo, Manager - Environmental Protection. Department of Sustainable Development, Government of Nunavut. Iqaluit.
4. Letter dated October 25, 1999. ASubmissions concerning Application by Municipality of Iqaluit for renewal of water licence.≡ Lee F. Webber, Legal Counsel to the Intervenor DIAND. Department of Justice Canada. Yellowknife.
5. Letter dated October 25, 1999. ASupplementary Written Submission for Iqaluit License Renewal.≡ Denis Bédard, Director of Engineering & Planning. Municipality of Iqaluit. Iqaluit.
6. Letter dated October 25, 1999. ANunavut Written Submissions - Open Burning and Enforcement.≡ Susan Hardy, Legal Counsel. Nunavut Department of Justice. Iqaluit.

2nd Round of Submissions re: Public Hearing

1. Letter dated October 30, 1999. AApplication by the Municipality of Iqaluit for Renewal of Water Licence.≡ Laurie Pelly, Director of Legal Services. Nunavut Tunngavik Inc., Cambridge Bay.
2. Letter dated November 5, 1999.≡Nunavut Written Submissions - Open Burning and Enforcement.≡ Susan Hardy, Legal Counsel. Nunavut Department of Justice. Iqaluit.
3. Letter dated November 5, 1999. AREly submissions concerning Application by Municipality of Iqaluit for renewal of water licence.≡ Lee Webber, Legal Counsel to the Intervenor DIAND, Department of Justice Canada. Yellowknife.
4. Letter dated November 5, 1999. ASubmissions concerning application of Municipality of Iqaluit for Renewal for Water Licence.≡ Paul Crowley. Iqaluit.
5. Transcript and tapes. APublic Hearing of the Nunavut Water Board on the Renewal of Licence N5L4-0087 for the Town of Iqaluit, Iqaluit Nunavut, September 8-9, 1999≡ Nunavut Water Board.

APPENDIX B - LIST OF EXHIBITS FILED AT SEPTEMBER 8, 9, 1999 PUBLIC HEARING

1. Public Registry. AMunicipality of Iqaluit.≡ Nunavut Water Board. Gjoa Haven.
2. Design Drawing D-0199-A004. AMunicipality of Iqaluit, Nunavut -Waste Water Reclamation Facility Elevations.≡ Sidney, B.C.: Hill, Murray, & Associates, Inc.

Design DrawingD-0199-G004. AMunicipality of Iqaluit, Nunavut - Water Reclamation Facility. General Assembly - First Floor.≡ Sidney, B.C.: Hill, Murray & Associates, Inc.
3. Letters dated December 30, 1996 and May 25, 1996 with AIqaluit Shellfish Monitoring Program.≡ Margaret Keast. Habitat Management Biologist. Department of Fisheries and Oceans Canada. Iqaluit.
4. Video Tape dated August 19, 1999. Lake Geraldine Dam and Water Intake Inspection. Municipality of Iqaluit. Iqaluit.
5. Design Drawings. Set 3. AMunicipality of Iqaluit, Nunavut. 1999. Water Reclamation Facility. Project 0199.≡ Sidney, B.C.: Hill, Murray & Associates, Inc.
6. Dated August 16, 1999. ATerms of Reference - Comprehensive Solid Waste Management Plan.≡ Municipality of Iqaluit. Iqaluit.
7. AMillennium Eco-Communities≡ and AEcoAction 2000 Community Funding Program.≡ Environment Canada.
8. Report dated March, 1993. AMunicipal Wastewater Treatment Technologies Capable of Achieving Compliance with the Fisheries Act in the Northwest Territories.≡ Environment Protection. Environment Canada.
9. Duong, Diep and Ron Kent. AGuidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories.≡ Municipal and Community Affairs - Community Development. Northwest Territories. October, 1996.
10. Overhead Slides dated September 8 and 9, 1999. Department of Indian Affairs and Northern Development.
11. Water Quality DIAND with respect to Lakes Surrounding Lake Geraldine.
12. Letter dated March 18, 1998. ASewage Effluent Parameters.≡ Dionne Filiatrault, Technical Advisor. Nunavut Water Board. Gjoa Haven.

13. Letter dated August 3, 1999. ALevel 1 Environmental Screening.≡ with ACEAA Screening Form - Level 1.≡ David Livingstone, Director- Renewable Resources and Environment. Department of Indian and Northern Affairs.
14. Floppy disk dated September 9, 1999. Photos. Marcel Mason. Iqaluit.
15. Internet References dated September 9, 1999. Marcel Mason. Iqaluit.
16. Document dated September 7, 1999. AProposed Budget Distribution by Fiscal Year.≡ Department of Community Government and Transportation. Government of Nunavut. Iqaluit.
17. Letter dated August 27, 1998. APermission to Occupy - New Sewage Treatment Facility.≡ John Graham, Airport Manager. Iqaluit Airport. Government of Northwest Territories.
18. Heinke, Gary W. and James Crum. ASolid and Hazardous Waste Management.≡ Section 16.