

MUNICIPAL WASTERWATER MANAGEMENT WORKSHOP REPORT



INUVIK, NT
February 25 & 26, 2015

Content	Page
Executive Summary	3
Acknowledgements	4
Opening Prayer	5
Welcoming Remarks	5
Presentations	5
Introduction	
Inuvialuit Water Board	
Municipal and Community Affairs	
Water Resources Division – Environment and Natural Resources	
Taiga Environmental Laboratory - Environment and Natural Resources	
Department of Health and Social Services	
Group Discussions	7
Floor Discussions	9
Specific Discussions and Commitments	10
Moving Forward	13
Closing Prayer	13
Annex 1: Workshop Agenda	14
Annex 2: List of Participants and Presenters	16

Executive Summary

Hosted by the Inuvialuit Water Board (IWB), a Municipal Wastewater Management Workshop was held in Inuvik on February 25 & 26, 2015. The workshop was attended by representatives from the five Inuvialuit Settlement Region (ISR) Hamlets and the Government of the Northwest Territories (GNWT) Departments of Municipal and Community Affairs (MACA) Environment and Natural Resources (ENR) and Health & Social Services (H & SS).

The goal of the workshop was to enhance the knowledge, skills and abilities of communities in the ISR to manage municipal wastewater in a manner that ensures the safety of residents and workers and the protection of the environment.

Specific objectives were:

- to explore the roles and responsibilities of the IWB and government in municipal wastewater management and water licensing processes;
- to increase the awareness and knowledge amongst the communities regarding regulatory requirements for water licensing, wastewater treatment, effluent sampling, laboratory analysis and reporting;
- to increase awareness amongst government departments and regulators about the specific challenges faced by the communities in wastewater management and water licensing processes; and
- to promote and assist communities in compliance with water license requirements.

These objectives were achieved through interactive presentations from the IWB, MACA, ENR and H&SS. Presentations were focused on the roles and responsibilities of the respective department to assist the ISR communities in municipal wastewater management, water licensing processes and maintaining regulatory compliance. Presentations were followed with group and floor discussions.

Participants were split into two groups and four pertinent questions related to wastewater management were put forward for discussion by each group. The outcomes (issues/concerns/challenges) were presented and discussed further by all participants. A full list of outcomes was agreed to by all participants. The IWB then presented a list of non-compliance issues identified from inspection reports.

The workshop concluded with a commitment by the IWB and the government departments to undertake an internal review of the listed outcomes and within their respective mandates, identify the extent to which they would be willing to work (either unilaterally or with other government departments or the IWB) in assisting municipalities address them.

The IWB agreed to coordinate a meeting by the end of April 2015 where the government and IWB would meet to compile and coordinate their responses and in turn advise municipalities of the collective action they would be willing to undertake.

This workshop was the fourth in the series of workshops organized by the IWB, formerly the Northwest Territories Water Board (NWTWB). Other workshops included Municipal Water Licensing in 2008, Spill Contingency Planning and Sampling in 2010 and Hazardous Waste Management in 2011. The main purpose of these workshops is to increase the knowledge and capacity of the communities with regard to water and waste management.

Acknowledgements

This workshop would not have been possible without the active participation of all attendees and presenters. Sincere thanks to the municipal attendees from Sachs Harbour, Ulukhaktok, Tuktoyaktuk, Paulatuk and Aklavik and the representatives from ENR, H&SS and MACA.

Opening Prayer

Gibson Kudlak of Ulukhaktok opened the workshop with a prayer.

Welcoming Remarks

Roger Connelly, IWB Chairperson, welcomed participants to the workshop and highlighted the importance of safe municipal wastewater management. He mentioned the need to strengthen the capacity of community governments for safe and efficient water management from initial community water intake to final wastewater disposal and reentry into the environment. Workshops of this nature create a forum for two way communication between communities, government departments and the IWB. This workshop will identify the roles and responsibilities of government departments and the IWB in assisting community governments provide safe potable water, environmentally acceptable wastewater disposal and an understanding of maintaining regulatory requirements. Finally, he emphasized the importance of the IWB and government departments working together with communities to achieve their overarching goal.

Presentations

Emery Paquin, Facilitator: Presented the day 1 and day 2 workshop outline and agenda and highlighted the workshop goals and objectives and the questions for group discussions. The steps involved in managing municipal wastewater effluent and monitoring, reporting and compliance were also presented.

The IWB and government departments were invited to present their roles and responsibilities in assisting community governments on municipal wastewater management, water licensing processes and maintaining regulatory compliance. All the presentations were interactive and included discussions with regard to wastewater management including drinking water and solid waste management issues.

Mardy Semmler, Executive Director, IWB: Highlighted the IWB mandate, roles and responsibilities in issuing municipal water licences to ISR communities, described the water licensing process, IWB expectations of municipalities, municipal waste and wastewater terms and conditions and Operation & Maintenance (O&M) Plan requirements.

Olivia Lee, Manager of Infrastructure and Project Management, MACA: Presented roles and responsibilities of MACA for solid waste and wastewater management, water licensing assistance with highlights of MACA's vision "to support capable, accountable and self-directed community governments providing a safe, sustainable and healthy environment for community residents" and mission "to work with community governments and other partners in supporting community residents".

MACA provides funding, technical support and operator training. MACA also supports management of waste and wastewater systems for community

governments. In relation to water license application processes, upon request from communities, MACA assists in document development, sampling and monitoring support of Surveillance Network Program (SNP) sites and assists in remediation and closures of existing solid waste sites.

During the presentation the following information was also mentioned:

- MACA assists communities during the proposed development of Solid Waste and Wastewater systems;
- Templates are being developed for Operation & Maintenance (O&M) Plans,; and
- MACA in conjunction with ENR are providing support to the Mackenzie Valley Land and Water Board (MVLWB) for the development of design and closure guidelines for new solid waste facilities.

Jeanne Arsenault, Pollution Control Specialist, WRD - ENR: The focus of the presentation was on WRD roles and responsibilities in monitoring and enforcement as per Section 65 of *Waters Act* and water licensing processes. The highlights of the presentation were on water licence conditions for water use and the deposit of waste, SNP sampling and monitoring and conditions with regard to management plans.

The main roles and responsibilities of WRD - ENR are:

- Inspection and enforcement;
- Licence and management plan review and comment; and
- Type A Water Licence approval body (ENR Minister).

Bruce Stuart, Manager, Taiga Environmental Laboratory - ENR: Presented history and purpose of Taiga Lab, roles and responsibilities as an Analyst under the *Waters Act*, sampling techniques and lab analysis.

As an Analyst under the *Waters Act*, Taiga Lab personnel are responsible for handling samples to be used in a legal proceeding, reviewing quality assurance/quality control plans, and testifying on behalf of the government in a court as to sample data (quality and legitimacy). Important information was provided for sampling techniques such as labelling of sample containers, clear indication of analysis required, transportation and the parameters to be analysed in the Taiga Laboratory.

Brian Craig, Environmental Health Officer, Public Health, Health and Social Services (H&SS), Inuvik Region: This presentation provided the definition of public sewage system, H&SS mandate for environmental protection, wastewater and health issues, and parameters considered during an environmental health officer (EHO) inspection on water and wastewater facilities.

The main concerns during an EHO inspection were mentioned as:

- Anything that may have, or may lead to, a negative impact on public health.

- Escaping sewage, broken berms, bank erosions, inadequate freeboard, spillage at off-loading chutes at sewage lagoon.
- Industrial waste – is it pre-treated? If not, is it excluded from the sewage system?
- Safety equipment – first aid equipment, site fencing, hand-rails, goggles, gloves, gas masks, if required, etc.

Group Discussions

During group discussions all participants were divided into two groups. The following questions were put forward for discussions:

- (1) What barriers to Municipal Wastewater Effluent (MWWE) management are you encountering?
- (2) What are the major challenges in maintaining compliance with water licenses?
- (3) How can the IWB and government departments help you to overcome these barriers and challenges?
- (4) How can communities better work together to manage MWWE?

After group discussions each group leader presented their outcomes.



Photo 1: Group leader presenting group discussion outcome

The outcomes of group discussions were summarized as follows:

Question (1) Outcome: Barriers to MWWE Management

- Facility security – dumping outside designated areas
- Unclear roles and responsibilities (including legal obligations)
- Lack of application forms and management plan templates
- Lack of design, operation and maintenance design guidelines and best practices
- Lack of enforcement – municipal and territorial
- Regionally focussed training opportunities

- Time sensitive sample management
- Clearly identified contacts at Board and departments

Question (2) Outcome: Challenges to Maintaining Compliance

- Application and management plan templates
- Environmental conditions – wind, snow, climate change
- Age of facilities makes compliance with new standards difficult
- Lack of locally available granular material
- Local Council reluctance to restrict ‘after hours’ access
- Changing licence terms and conditions
- Remoteness and limited timely transportation – submission of timely samples
- Competing priorities for community personnel
- Not enough coordination between government departments – uses up limited community personnel
- Lack of enforcement – municipal and territorial

Question (3) Outcome: How can IWB and Government help?

- Clearly identify contacts
- Board and Departments clarify roles and responsibilities
- Provide answers to ‘Frequently Asked Questions’ and make written resources readily available
- Preprinted sample labels, shipping documents and laboratory instruction sheets
- Water licence application and management plan templates
- Examples of ‘best practices’
- Emphasize importance of water and MWWE management to senior community officials or leadership
- Expand availability of operator training
 - Regionally focussed
 - include sampling and handling
- Expand funding availability to include management plan development
- Regional or inspection staff work with community workers to identify outstanding issues and work with Hamlet to resolve them
- Local Health representative assist in drinking water and wastewater sample collection
- Local Health representative assist in increasing worker safety and personal protection awareness
- Training – consult with communities when developing new training materials
- Assistance in prioritizing the importance of solid waste management - educating the local council and leadership as to including as a important function to fund - water and waste management
- Regional coordination of waste removal from communities
- Identify new sources of funding when they become available

Question (4) Outcome: Communities working better together

- Share information and experiences
- Share best practices, management plans, forms, checklists
- Coordinate training on a regional basis – take advantage of ‘coming together opportunities’
- Influence Community Council priorities
- Take advantage of ‘economies of scale’ opportunities – consultants, hazardous waste inventories and transport, bulk purchases and procurements

Floor Discussions

Day 2 began with the summary presentation and confirmation of day 1 group discussions.

This was followed by a presentation by the IWB outlining recurring water licence non-compliance issues.

These included:

- Filing of annual reports – as per term set on licence.
- Comply with the SNP annexed to the licence.
- Submit to the IWB for approval – map or drawings indicating the location of all SNP sampling stations.
- Post signs in appropriate areas to inform public of Water Supply and Waste Disposal Facilities.
- Maintain the waste disposal facilities to the satisfaction of an Inspector
 - Honey bags at the Bagged Toilet Waste Area;
 - Solid wastes at the Solid Waste Area;
 - Contain contaminated snow in such a manner as to minimize migration into any waters;
 - Segregate and store hazardous waste in a designated contained temporary storage area;
 - No openly burning of solid or liquid waste – except paper products, paperboard packaging and untreated wood;
 - No unauthorized wastes associated with the Municipal undertaking to enter any waters.
- Submit to the IWB for approval a Spill Contingency Plan in accordance with 2007 AANDC guidelines.
- Submit to the Board for approval a Sewage Treatment Plan.
- Submit to the Board for approval an updated Municipal Solid Waste Operations & Maintenance (O & M) Plan.
- Licensee shall implement the Spill Contingency Plan, Sewage Treatment Plan and the Municipal Solid Waste O & M Plan as and when approved by the Board.

All participating government departments and IWB agreed to identify how they could assist community governments in addressing the non-compliance issues.

Specific Discussions and Commitments

Question (Sachs Harbour): An old capped solid waste landfill site (probably over 30 years old) is situated in Sachs Harbour, leachate generated from this site flows down to the creek and eventually enters into the ocean, moreover it is unknown about who and what type of waste was dumped into that landfill. So far no sampling and lab tests have been conducted. Community residents are worried about the potential pollutants coming from the landfill along with leachate, therefore how can this issue be addressed?

Discussion of this issue: There was a discussion to address the concern raised by Sachs Harbour. ENR agreed to ensure leachate sample collection during open water season and laboratory analysis to find out if there are any environmental pollutants identified in the samples. The laboratory results will determine the basis for further courses of actions. (Commitment #1)

Question (Hamlets): Participants raised concerns of their difficulties in completing the water licence application along with the required waste management and spill contingency plans due to lack of technical manpower and resources, therefore how and where can Hamlets obtain assistance in this process?

Discussion of this issue: There was an interactive discussion by MACA, ENR and IWB to address the issue raised. The discussions resulted in a commitment by MACA to assist Hamlets, upon request, on completing the water licence application. (Commitment #3)

Question (Hamlet Participants): How can MACA assist communities in the water licensing process, annual report preparation as per Water Licence conditions and where and who to contact?

Response (MACA): MACA reiterated they assist communities in the preparation of water licence applications, development of waste management and contingency plans and also assists in the completion of annual reports as per water licence conditions. Hamlets can contact the MACA regional office in Inuvik.

Question (Hamlet Participants): Where is the appropriate location for collecting wastewater effluent samples?

Response (ENR): The appropriate location for collecting wastewater effluent samples is at the point of discharge or at the point before the discharge reaches the receiving water body.

Question (Sachs Harbour): What is the appropriate distance from landfill site to collect leachate samples?

Response (ENR): It is site specific; nevertheless samples should be collected at the discharge point before touching the receiving water body.

Question (Hamlet Participants): What should we do if water treatment and effluent quality exceed the quality standard?

Response (ENR): In this case, ENR may conduct studies to investigate the reasons why treatment systems do not function at the desired level.

Question (Hamlet Participants): Do we get the results of the samples sent for analysis in the laboratory?

Response and suggestion (ENR): If samples are collected by the community and sent for analysis, communities get the lab results, however if inspector collects samples, communities may not get the results. If communities do not get the results they sampled and sent for lab analysis, they are suggested to call Taiga Environmental Laboratory.

Question (Hamlet Participants): Should we label sample container before taking sample or after sampling?

Response (Taiga Lab): Labelling should be done before sampling with, at a minimum, the following information:

- Name;
- Project ID;
- Sample ID;
- Preservative information;
- collection date and time; and
- analysis required.

Question (Hamlet Participants): How long can samples be held before delivering into the laboratory for analysis?

Response (Taiga Lab): Holding time is critical for collected samples; analysis should be performed within 24 hours after collection.

Question (Hamlet Participants): Should we provide labels both on bottle and on separate paper?

Response (Taiga Lab): Labels should be provided on the sample container, it is not necessary to provide label on the separate paper. Put all your information on the sampling container and use a permanent waterproof marker.

Question: Is there a schedule for inspections?

Response (H&SS): Inspections are performed once a year; EHO goes to community and contacts Hamlet SAO before conducting inspection.

Question (Hamlets Participants): Where does the inspection report go? Can the communities get EHO inspection report?

Response (H&SS): The copy of EHO inspection report goes to Public Works Department and Community Health Office. Copy can be provided to Hamlet SAO.

Question: Can IWB get EHO inspection report?

Response (H&SS): EHO inspection report will be provided to IWB.

Commitment #1 (ENR): ENR committed resources for sample collection during upcoming open water season and laboratory analysis of the collected samples for determination of possible environmental pollutants in coordination with the Hamlet of Sachs Harbour.

Commitment #2 (E Paquin): Emery committed to provide link of "Waste and Waste Reduction Program" to the communities. **The web site link is <http://icarenwt.ca/waste-reduction-recycling-initiative-funding>.**

Commitment #3 (MACA): MACA committed to assist Hamlets with their water licence applications upon request. For this purpose Hamlets can contact MACA Regional Office in Inuvik.

Commitment and Suggestions #4 (IWB): IWB committed to provide information about the licensing process and also suggested accessing the IWB web site to view previous information submitted and recommended the submission of water licence applications at least eight (8) months prior to expiry of existing licence.

The IWB has committed to continue the water and wastewater workshops on an annual basis to assist in building capacity at the community level.

The IWB has also agreed to:

1. provide the annual report template to Hamlet officials;
2. ensure the reminder letters for licence renewal, annual report submissions and other commitments are continued;
3. subject to budget availability, invite the Mayors or Council members to the next workshops;
4. consider a day beforehand with community representatives to discuss issues, concerns and comments prior to meeting with other government departments; and
5. attempt to have a water management presentation included on the agenda of the next Beaufort Delta Leadership Conference.

Moving Forward

The workshop provided all participants with renewed realization of the difficulties faced by Hamlets in wastewater management, the water licensing process and regulatory compliance due to limited resources, manpower and training. The IWB, MACA, and ENR agreed to work with communities and look at options and actions to overcome those difficulties identified during the workshop. H&SS will be included in this effort.

Towards this end, the IWB committed to coordinating a meeting with the GNWT Departments of MACA, ENR, and H&SS prior to the end of April 2015. The purpose will be to clarify roles and responsibilities and commitments to action on those areas of community concern identified during the workshop.

Closing Prayer

Gibson Kudlak of Ulukhaktok closed the workshop with a prayer.

**Annex 1: Municipal Wastewater Management Workshop
Sundog Room, Midnight Sun Recreation Complex, Inuvik, NT
February 25, 2015: DAY 1**

Time	Activity	Lead
8:30 - 9:00 am	Arrival and Registration	
9:00 - 9:45 am	Welcome and Introduction <ul style="list-style-type: none"> • opening prayer • round table introductions, • welcoming remarks – Roger Connelly – IWB Chairperson • objectives of workshop & agenda review 	Emery Paquin Facilitator
9:45 – 10:15 am	Inuvialuit Water Board (IWB)	Mardy Semmler Ex Dir
10:15 - 10:30 am	Refreshments	
10:30 - 11:00 am	Presentation - 1: Department of Municipal and Community Affairs <ul style="list-style-type: none"> • role and responsibility of MACA in assisting community in water licensing processes; • role and responsibility in wastewater management and disposal systems Question & Answer Session	Olivia Lee Manager of Infrastructure and Project Management
11:00 - 11:30 am	Presentation - 2: Water Resources Division - ENR <ul style="list-style-type: none"> • role and responsibility in monitoring and enforcement as per Section 65 of <i>Waters Act</i> • role and responsibility in water licensing process Question & Answer Session	Jeanne Arsenault Water Resources Division - ENR
11:30 - 12:00 noon	Presentation - 3: Taiga Environmental Laboratory <ul style="list-style-type: none"> • role and responsibility as an ANALYST as described in Section 65 of <i>Waters Act</i> • sampling techniques, labelling, handling and transportation • laboratory analysis Question & Answer Session	Bruce Stuart Laboratory Manager
12:00 - 1:00 pm	Lunch Break	
1:00 – 1:30 pm	Presentation - 4: Department of Health and Social Services <ul style="list-style-type: none"> • roles and responsibility of Environmental Health Officer with respect to wastewater management • health and environmental issues • mitigation of health and environmental issues • wastewater management systems 	Brian Craig, Environmental Health Officer
1:30 – 2:00 pm	Presentation - 5: Inuvialuit Land Administration <ul style="list-style-type: none"> • role and responsibility with regard to water Licensing in ISR Question & Answer Session (withdrawn)	Mike Harlow Chief Land Administrator
2:00 – 3:30 pm	Groups discussions	Emery Paquin Facilitator
3:30 - 3:45 pm	Refreshment	
3:45 - 4:15 pm	Group-1: Group report presentation and Q&A Session	Group Leader
4:15 - 4:45 pm	Group-2: Group report presentation and Q&A Session	Group Leader
4:45 - 5:00 pm	Wrap up of day-1 and expectations of Day-2	Emery Paquin Facilitator

**Annex 1 Cont'd: Municipal Wastewater Management Workshop
 Sundog Room, Midnight Sun Recreation Complex, Inuvik, NT
 February 26, 2015: DAY 2**

Time	Activity	Lead
8:30 - 9:00 am	Arrival and Registration	
9:00 - 9:15 am	Welcome and review of Day 1 and Day 2 agenda	Emery Paquin Facilitator
9:15 - 10:15 am	Discussion, questions and answers	Emery Paquin Facilitator
10:15 - 10:30 am	Refreshment	
10:30 - 12:45 noon	Floor discussions: Municipal Water Licence Issues as per Water Licence Conditions	Emery Paquin Facilitator
12:45 - 1:00 pm	Wrap up and closing remarks Closing prayer	Mardy Semmler Executive Director

Annex 2: Participants - Municipal Wastewater Management Workshop February 25 & 26, 2015

Municipalities	Community	Contact
Darren Nasogaluak, Foreman	Sachs Harbour	Email: hamlet_ceo@airware.ca Tel: 867-690-4351
William Bennett, SAO	Ulukhaktok	Email: ulukhaktok_sao@northwestel.net Tel: 867-396-8000
Gibson Kudlak, Water Plant Operator/Building Maintainer	Ulukhaktok	Email: ulukhaktok_sao@northwestel.net Tel: 867-396-8000
Davy Krengnektak, Works Manager	Tuktoyaktuk	Email: tuksao@northwestel.net Tel: 867-977-2286
Robert Gruben, Water Treatment Plant Operator	Tuktoyaktuk	Email: tuksao@northwestel.net Tel: 867-977-2286
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Brian Craig Environmental Health Officer	Public Health Health and Social Services	Email: brian_craig@gov.nt.ca Tel: 867-777-4840
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Bijaya Adhikari Science & Regulatory Coordinator	Inuvialuit Water Board	Email: adhikarib@nwtwb.com Tel: 867-678-8610