# Water Licence Renewal Application Licence number: 3BM-KUG 1520

Hamlet of Kugluktuk, NU

Submission: September 28, 2020

# Prepared by:

Shah Alam, P. Eng. E.P.

Municipal Planning Engineer,

Government of Nunavut

Community and Government Services

Cambridge Bay, Nu



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Department of Community and Government Services Nunalingni Kavamatkunnilu Pivikhaqautikkut Ministère des Services Communautaires et gouvernementaux

Kugluktuk Water Licence: 3BM-KUG 1520 Renewal

#### September 28, 2020

Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1L0
Attention: Richard Dwer, Manager of Licensing
RE: 3BM-KUG 1520 – Kugluktuk water Licence Renewal

Dear Richard,

Please find the enclosed package of 3BM-KUG 1520 NWB Water Licence renewal request for the Hamlet of Kugluktuk. We are pleased to mention updating of number of documents in respond to the request letter by the Board dated December 08, 2015 of the issuance of the current licence as below:

- Annual Report 2019 and all previous year reports
- Addendum to previously approved O&M manual 2014 of the sewage and wastewater facility
- Addendum to Spill Contingency Plan 2014 previously approved and active
- Update of O&M manual of new water intake system and new treatment plant

We also realize requirements of some information update to the renewal Licence as below:

- Location of new water treatment plant at 67°49′35.32″, latitude and 115°05′35.5″ longitude
- Elimination of station KUG-6 and KUG-7

A&R plan of old Lagoon: Effective monitoring program is not in the plan since the berm materials were pushed to infill lagoon area and levelled. Part of the old lagoon foot-print area covered by new lagoon berm toe and water flowing over this area is finally discharges to the station KUG-4 with parameters compliance. We request the Board to eliminate KUG-6 as no specific need for it using the new lagoon.

The lagoon berm foundation originally built on active layer permafrost and design intent to keep berm foundation on solid frost ground. Temperature were recorded until 2013 as available data and logger but after that data recording cables were not in such situation to continue recording. The licensee is requesting also to eliminate the monitoring station KUG-7 from the requirement in the renewal licence.



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Department of Community and Government Services
Nunalingni Kavamatkunnilu Pivikhaqautikkut
Ministère des Services Communautaires et gouvernementaux

- KUG-2 Solid Waste facility sampling location
   Location of this station is outside of the bulk metals dump. Therefore, requirement of parameters for effluent to be considered in accordance with metal dump leachate run-off.
- **KUG-5** Effluent run-off from Landfarm sampling location
  The landfarm is basically a liner cell and allowed for soils and spill materials storage temporarily with no actual treatment other than natural remediation by rain and snow melts water and air flow. The landfarm is situated on one corner of the solid waste facility and run-off from the landfarm mixes with solid waste leachate at station KUG-5. We request the Board to specify requirements of run off parameters for this station.

The community is growing fast and the need of potable water quantity increasing day by day. We are requesting the Nunavut Water Board consideration for increasing the annual water intake to 90,000 m3 and renewal of the license for another 10 years. GN CGS is working for the improvement of the sewage lagoon leaking issue and liner bubbles elimination works under a GN funded project.

GN CGS is submitting this Licence Renewal Application on behalf of the Hamlet of Kugluktuk. The Application fee of \$30.00 is paid to the Board (Receiver General for Canada) as the requirement

Best Regards,

Shah Alam, P. Eng. E.P. CAPM
Municipal Planning Engineer,
Government of Nunavut
Community and Government Services
Kitikmeot Region, Cambridge Bay, Nu
Phone: 867-983-4156, fax: 867-983-4124
salam@gov.nu.ca<mailto:salam@gov.nu.ca>



# Hamlet Of Kugluktuk Kugluktuk Katimayeen P.O. Box 271

KUGLUKTUK, NU XOB 0E0 Phone: (867) 982-6500 Fax: (867) 982-3060

September 11, 2020

Re: Authorization to act on our behalf

To whom it may concern;

Please note that we authorize Shah Alam, Municipal Engineer, to act on behalf of the Hamlet of Kugluktuk during the water license 3BM-KUG1520NWB renewal process.

Sincerely,

Kimberley Young

Hamlet of Kugluktuk



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Department of Community and Government Services Nunalingni Kavamatkunnilu Pivikhaqautikkut Ministère des Services Communautaires et gouvernementaux

#### 3BM-KUG 1520; Type-B, water Licence renewal request

#### **Executive Summary**

The Hamlet of Kugluktuk is responsible for the supply of potable water, disposal of sewage and solid waste generated from the community. These facilities are currently operating with a Water Licence active until December 07, 2020. New intake pumphouse and intake lines are in operation since completed in 2012. The new water treatment plant (WTP) is in operation since completed in March 2017 and the water source remains same Coppermine river. Alternate water intake system using mobile ice shack and redirecting to water reservoir are part of water supply system if sessional salt wedge and turbidity issues determine in river water. With the increase rate of population and water demand, the licensee is requesting for the water intake allowable limit increase to 90,000 m3 annually which will not affect the current Licence Type-B.

The engineered sewage lagoon with capacity 126,000 m3 to serve the community for next 20 years life cycle. Raw sewage deposits inside the lagoon through truck off-loads that are collected from resident sewage tanks and receives natural treatment primarily inside during the winter and spring all most 8 months. When decanted out during summer, sewage effluent receives final treatment on vegetation enriched wetland and in presence of sunlight and air. Recent years, the lagoon has seen leaking across the east berm in a location and liner floating due to gas entrap underside in localized areas. GN hired consultant has investigated those issues and prepared a report suggesting different options to repair leaked berm and bubbles elimination. Localized slumping and surface cracks along the berm were repaired by a GN hired contractor. The lagoon leak issue is not threat on capacity or containment, but floating liner issue is some concern on capacity. The hamlet is working with GN CGS to resolve the issue with cost effective repair option.

The solid waste facility includes a landfarm cell for contaminated soil and hazardous materials storage cell to the proximity of the old sewage facility has been in operation since developed in 2007. The facility has room for expansion towards north at down gradient covering the old sewage lagoon to be used for next 10 more years. The bulky metal dump to the east of the solid waste facility has been active since last improvement in 2007. Recently, some improvement works inside the facility and expansion on sides brings the facility useable for another 10 years.

O&M manual for sewage treatment, solid waste and Spill Contingency plans have been active since last approved in 2014. Addendum to these documents and plan were submitted to the Board as requested to update their status, component integration and operational process. O&M manual of new IPH and currently completed WTP were updated with the Board as requested in the letter of the Licence issued.

#### Naittuq Tuhaayakhaq

Kugluktumi Haamlatkut havaariyaat imiqtautiluhi, anaqtautit imaiyaqhugu imaalu iqqakuutaqtaqhutiglu nunagiyaptingni. Hapkua aulapkaqatuvaktut Imarmut Laisiqaqhuta nakuuyumik aulaniaqtut December 07, 2020-mut. Nutaaq imiqtarvik tuqhuangalu atuqtauliqtut iniqtaugami 2012-mi. Nutaaq imarmik halummaqtirvia (WTP) iniqtauyuq March 2017-mi imiqtarvia aulahimaittuq Kugluktumi kuugaanit. Aallakkut imiqtarvik agyaqattaqtaaqtumik hikumi igluuyaqarluni aulavikhaa ahikkut imiqtarvingmut taryuqhunilaqikpat halumailruqaqatlunit imiqtaqtaanni kuugarmit. Inugiakhivallianiagullu imaqarumalutik, laisiqaqtittiyut imiqtaquyiliqtut angigliqublugu 90,000 m3-mut ukiuq tamaat taimaa tadja naammagiyauyuq laisigiyaannut Type-B-mut.

Havaktauhimayuq anaqtautit kivirarviat tatattaaqtuq 126,000 m3-mik naammayuq nunaptingnut hivunikhamut ukiunut 20-nut. Anaqtaqtauhimayuq iglunit kiviraqtauhimayuq inmigut halummaqtiqpaktuq iluani ukiuraaluk upin'ngaamilu 8-ni tatqiqhiutini. Auyami nunamut maqipkaqhugu aniapkaqtauvaktuq qayagiblutik halumailruit nunamungaqtailiblugit nuna nauvagiangat hiqiniqarnirlu hilamiinnarlu nakuuhaqhautigiyait. Qaffini ukiuni, kivirarvik maqiyuq ilitturiyauyuq kivataanit puviqhunilu ilanginni ataanit. Nunavut Kavamangat havaktipagait ilitturiniaqhugit huuq taimailiyaakhaa kangiqhipkautikhamik titirarniaqtut qanuqtut ahikkut pittaariakhaita maqihuiriangat puviqtaruiriangat. Ihuaqhaqtauyuq puvirviit qupihimaniit Kavamatkut kaatulaatitaiblutik. Kivirarvik qayangnaluanngittuq tatatihimaittumik, kihimi puptalaaqtuq iluvruanga ihumaalutigiyauyuq tatattauvallaarumi. Haamlatkut havaqatigiyait Nunavut Kavamatkut Nunalingni Kavamakullu Ikayuqtiit ihuaqharnahuaqhugu akituvallaanngitumik.

Iqqakuurvik piqaqtuq tamayaqarvinik nunaqarvingmik qayangnaqtuqarviglu kivirarviugaluami atuqtauhimaliqtuq iqqakuurvik 2007-mit. Angigliyuummiriami iniqaqtuq hivuraanut akparnianut qaangagut kivirarviugaluap atuqtautaaqtuq hivunikhaani ukiuni qulini. Havigaligyuaqarvik kivataani iqqakuurviup atuqtaunginnaqtuq iniqtaugami 2007-mi. Tadja, ihuaqhaqtauyariaqaliqtuq haniraanut angiglilirlugu taimaa atuqtauvagiangani hivunikhaani ukiuni qulini.

Auladjutit Nakuuhimadjutit maliktakhaq anaqtaqtautit halummaqtirut, iqqakuurvik Kiviyuqaqqat Qanuriliurutikhat parnaiyautit huli atuqtauyuq havaktaugamik 2014-mi. Ilauyullu ukununga titiqqanut parnaiyautinullu tuniyauhimayuq Katimayinut nutaanguqtiqublugit qanurinia, ilauruhia atuqpallauhia aulapkauhikhaalu. Auladjutit Nakuuhimadjutit maliktakhaq nutaanut IPU-nut tadjalu iniqtauyumut imarmik halummaqtirvianullu kangiqhipkautauyut Katimayinut piyumayaatigut titiraramik Laisikhaat piyaangat.



# **Application for Water Licence Renewal**

Document Date: May 2011

Application Submission Date: 09/24/2020

Month/Day/Year

P.O. BOX 119 GJOA HAVEN, NUNAVUT XOB 1J0

Tel: (867)360-6338 Fax:(867)360-6369

# **DOCUMENT MANAGEMENT**

Original Document Date: April 2010

# **DOCUMENT AMENDMENTS**

	Description	Date
(1)	Updated for public distribution as separate document	June 2010
	from NWB Guide 7	
(2)	Updated NWB logos and reformatted table to allow rows	May 2011
	to break across page	
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		
(9)		
(10)		



P.O. Box 119 GJOA HAVEN, NU X0B 1J0 TEL: (867) 360-6338

FAX: (867) 360-6369

NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYIT
OFFICE DES EAUX DU NUNAVUT

#### APPLICATION FOR WATER LICENCE RENEWAL

Your application may be classified as a **renewal** only if all operations remain the same as previously licensed and only the term of the licence requires change. If your application contemplates:

- a change to the volume of water authorized for use;
- a new activity related to water use or waste disposal;
- a new component related to water use or waste disposal;
- a change in predicted environmental impacts(s); and/or
- a change to any term or condition of the original licence

your application is **NOT** classified as a renewal but rather an amendment and will require submission of an Application for Water Licence Amendment. Licensees applying for combined renewal / amendment are also referred to the Application for Water Licence Amendment.

The applicant is referred to the NWB's Guide 7: <u>Licensee Requirements Following the Issuance</u> of a Water License for more information about this application form.

EXISTING LICENCE NO: 3BM-CAM 0914		
1. LICENSEE CONTACT INFORMATION		
Is the licensee the same as that referred to on the existing licence?		
✓ Yes □ No		
If No, a licence assignment must be completed and approved by the NWB. A renewal will only be issued in the name of the current licensee in the absence of assignment of the licence.		
If the licensee is the same, but the <u>name</u> of the licensee has changed, attach a certificate of name change.		
Name: Hamlet of Kugluktuk		
Address: P.O Box 271, Kugluktuk, Nunavut X0B 0E0		
Attn. Kimberley Young, Senior Administrative Officer (SAO)		
Phone: 867-982-6505 Fax: 867-982-3060 e-mail: saokug@qiniq.com		

2. LICENSEE REPRESENTATIVE CONTACT INFORMATION – If different from Block 1.		
2. LICENSEE REFRESENTATIVE CONTACT INFORMATION - II dilletent from block 1.		
Name: Shah Alam, P. Eng.		
Address: Municipal Planning Engineer		
Community and Government Services (CGS)		
Cambridge Bay, Helen Maksagak Centre, NU X0B 0C0		
Phone: <u>867-983-4156</u>		
Fax: <u>867-983-4123</u>		
e-mail: <u>salam@gov.nu.ca</u>		
(Attach authorization letter.)		
3. NAME OF PROJECT		
Is the name of the project the same as that considered in the existing water licence?		
✓ Yes □ No		
Indicate the name of the project including the name of the location:		
4. LOCATION OF UNDERTAKING		
Is the location of the undertaking the same as that considered in the existing water licence?		
✓ Yes   No		
Project Extents		
NW: Latitude: ( ° ' " N) Longitude: ( ° ' " W) NE: Latitude: ( ° ' " N) Longitude: ( ° ' " W)		
SE: Latitude: ( ° ' "N) Longitude: ( ° ' "W)		
SW: Latitude: ( ° ′ ″ N) Longitude: ( ° ′ ″ W)		
Camp Location(s)		
Latitude: (67°49'32" N) Longitude: (115°05'42" W)		
5. MAP		
Are the locations of the main components of the undertaking the same as those considered in the existing licence?		
✓ Yes  No		
res □ NO		
Attach a topographical map, indicating the main components of the undertaking.		
NTS Map Sheet No.: Map Name: Map Scale:		
C. NATURE OF INTEREST IN THE LAND		
6. NATURE OF INTEREST IN THE LAND		

Is the nature of the interest in the land the same as that considered in the existing water licence?			
✓ Yes	□No		
Check any of the following that are applicable to the propos 'Surface' header must be checked).	sed undertaking (at least one box under the		
Sub-surface			
☐ Mineral Lease from Nunavut Tunngavik Incorpor Date (expected date) of issuance:			
☐ Mineral Lease from Indian and Northern Affairs C Date (expected date) of issuance:			
Surface			
Crown Land Use Authorization from Indian and Note (expected date) of issuance:			
☐ Inuit Owned Land (IOL) Authorization from Kitikn Date (expected date) of issuance:			
☐ IOL Authorization from Kivalliq Inuit Association Date (expected date) of issuance:			
☐ IOL Authorization from Qikiqtani Inuit Association Date (expected date) of issuance:			
Commissioner's Land Use Authorization  Date (expected date) of issuance:	Date of expiry:		
Other			
Date (expected date) of issuance:	Date of expiry:		
Is the name of the entity(s) holding authorizations the same	e as that considered in the existing water licence?		
✓ Yes	□No		
If No, a licence assignment must be completed and approve	ved by the NWB.		
Name of entity(s) holding authorizations:			
7. NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION			
Is the undertaking located in the same land use planning area as that considered in the existing licence?			
✓ Yes	□No		

Indicate the land use planning area in which the project is located.		
indicate the land use planning area in which the project is located.		
☐ North Baffin ☐ Keewatin		
South Baffin Sanikiluaq		
☐ Akunniq		
Was a land use plan conformity determination required from NPC prior to the issuance of the existing water licence?		
☐ Yes ☑ No		
If Yes, indicate date issued and attach copy		
Does the proposed renewal change the original NPC conformity determination or the need to obtain one?		
☐ Yes ✓ No		
If Yes, indicate date issued (or expected) and attach a copy.		
If No, provide written confirmation from NPC confirming that a land use plan conformity review is not required.		
8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION		
Was a screening determination required from NIRB prior to the issuance of the existing water licence?		
☐ Yes ☑ No		
If Yes, indicate date issued and attach copy		
Does the proposed renewal change the original NIRB screening determination or the need to obtain one?		
☐ Yes ☑ No		
If Yes, indicate date issued (or expected) and attach a copy		
9. DESCRIPTION OF UNDERTAKING		
Is the description of the undertaking the same as that considered in the existing water licence?		
✓ Yes □ No List and attach plans and drawings or project proposal.		
10. OPTIONS		
Are the alternative methods and locations that were considered to carry out the project the same as those considered in the existing water licence?		
☐ Yes ☑ No		
Provide a brief explanation of the alternative methods or locations that were considered to carry out the project.		

11. CLASSIFICATION OF PRIMARY UNDERTAKING			
Is the primary undertaking the same as that considered in the existing water licence?			
✓ Yes □ No			
Indicate the primary classification of undertaking by checking one of the following boxes.			
☐ Industrial ☐ Agricultural ☐ Mining and Milling (includes exploration/drilling/exploration camps) ☐ Conservation			
✓ Municipal (includes camps/lodges) ☐ Recreational   ☐ Power ☐ Miscellaneous (describe below):			
See Schedule II of the Northwest Territories Waters Regulations for Description of Undertakings.			
12. WATER USE			
Is the type(s) of water use(s) the same as that considered in the existing water licence?			
✓ Yes    No			
Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.			
<ul> <li>☑To obtain water for municipal purposes</li> <li>☐ To obtain water for industrial purposes</li> <li>☐ To cross a watercourse</li> <li>☐ To alter the flow of, or store water</li> <li>☐ Other:</li> </ul> <ul> <li>☐ To divert a watercourse</li> <li>☐ To modify the bed or bank of a watercourse</li> <li>☐ Flood control</li> </ul>			
13. QUANTITY OF WATER INVOLVED			
Is the source of water the same as that considered in the existing licence?  ☑ Yes ☐ No			
Name of water source(s): Coppermine River (show location(s) on map)			
Is the quality of the water source and its available capacity the same as that considered in the existing licence?			
Describe the quality of the water source(s) and the available capacity(s):			
Is the overall estimated quantity of water to be used the same as that considered in the existing licence?			
✓ Yes □ No			
Provide the overall estimated quantity of water to be used: 90,000 cubic metres annually			
Are the quantity(s) of water to be used from each source the same as those considered in the existing licence?			
✓ Yes   No			

Provide the estimated quantity(s) of water to be used from each source: 90,000 cubic metres annually.			
Are the quantity(s) of water to be used for each purpose the same as those considered in the existing licence?			
✓ Yes □ No			
Provide the estimated quantities to be used for each purpose (camp, drilling, etc.): not for other purposes except drinking and residential/institutional uses			
Are the method(s) of extraction the same as those considered in the existing licence? ✓ Yes ☐ No			
Describe the method(s) of extraction:			
<ul> <li>Use twin intake Pumphouse operate by 3-phase power line and a back-up generator,</li> <li>Heat trace line inside the150mm insulated HDPE pipe connected to pump</li> <li>Intake screen at the end of pipe submerged permanently inverted at 3.5 m depth from water surface</li> <li>Air burst line attach with water intake pipe for cleaning the clog of intake screen.</li> <li>Intake water deliver to feed water tank from where it feeds to sand filters and UV and then storage in treated water tank. Cl2 dosing into water drawing from treated water tank through truckfill outside.</li> <li>Use a storage reservoir for sedimentation and filtration naturally when high turbidity appears</li> <li>Use temporary hose and mobile shack for alternate ice water when salt intrusion appears in river water.</li> <li>The new water treatment plant also includes PAC (poly-aluminum chloride) as flocculant to raw water and then sediment of suspended particles when high turbidity in river water to reduce loads on sand filtration.</li> <li>Are the quantity(s) of water returned to source(s): water returns into the source resulting from snow melts in connected areas and continuity of river flow.</li> </ul>			
Are the quality(s) of water(s) returned to source(s) the same as those considered in the existing licence?			
✓ Yes   No			
Describe the quality(s) of water(s) returned to source(s):			
<ul> <li>During early summer, snow melts water from nearby upstream carry sandy silts from gravel rock and suspended solids that generate more turbidity to water.</li> <li>River water from upstream creek, lake and other water bodies carry dissolved salt and un-dissolved particles with water during mid-summer to fall.</li> <li>Snow melt water from nearby lands, hill, gravel pits with organic and sands during early summer.</li> </ul>			
14. WASTE			
Are the type(s) of waste(s) to be generated and/ or deposited the same as those considered in the existing licence?  Yes No			
Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.			

✓ Sewage	☑ Waste oil	
✓ Solid Waste	☑ Greywater	
✓ Hazardous	Sludges	
	Contaminated soil and/or water	
✓ Animal Waste		
Other (describe): used tires, waste woo	ods, auto batteries, electric waste, plastic, papers etc.	
15. QUANTITY AND QUALITY OF WASTE IN	NVOLVED	
Are the quantity(s) of the types of wastes involved	d the same as those considered in the existing licence?	
	✓ Yes □ No	
Are the composition(s) of the types of wastes involved the same as those considered in the existing licence?		
	✓ Yes   ¬ No	
Are the method(s) of treatment for the types of waste involved the same as those considered in the existing licence?		
	☑ Yes □ No	
Are the method(s) of disposal for the types of waste involved the same as those considered in the existing licence?		
	✓ Yes □ No	
For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/year, method of treatment and method of disposal.		

,	Generated	Treatment Method	Disposal Method
90%-95% water	60,000	Retention for 360 days, then discharge for natural remediation	Pump decant, also discharge through overflow pipe.
Food, paper, wood, can, plastic, cloth etc.	12,000	Compact and push down, cover with waste mix soil and granular.	House hold bin and collect by covered truck and dump on pile at location.
Battery, paint, switch, antifreeze, bulb etc.	500	Store in wooden box with plastic around until ship out	Ship to south with contractor
Auto body, snow mobile, metal door, window and electronic	1,600	Pile on cell and smash to smaller pieces before cover with cover materials	Reusable items put in sea can and send by barge
Meat, bone, skin of caribou, muskox, char	60	Cover with granular cover materials	Store in cell on site
Engine oil, heating oil	140	Store in container with cover until ship out	Ship in container
	Food, paper, wood, can, plastic, cloth etc.  Battery, paint, switch, antifreeze, bulb etc.  Auto body, snow mobile, metal door, window and electronic Meat, bone, skin of caribou, muskox, char	Food, paper, wood, can, plastic, cloth etc.  Battery, paint, switch, antifreeze, bulb etc.  Auto body, snow mobile, metal door, window and electronic  Meat, bone, skin of caribou, muskox, char	then discharge for natural remediation  Food, paper, wood, can, plastic, cloth etc.  Battery, paint, switch, antifreeze, bulb etc.  Auto body, snow mobile, metal door, window and electronic Meat, bone, skin of caribou, muskox, char  Engine oil, heating oil  12,000 Compact and push down, cover with waste mix soil and granular.  Store in wooden box with plastic around until ship out  Pile on cell and smash to smaller pieces before cover with cover materials  Cover with granular cover materials

# 16. OTHER AUTHORIZATIONS

	_
In addition to the sub-surface and surface land use authorizations provided in Block 6, are the same authorizations required as considered in the existing licence? N/A	
☐ Yes ☐ No For each provide the following:	
Authorization:	
Administering Agency:	
Project Activity:	
Date (expected date) of issuance: Date of expiry:	
17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES  Are predicted environmental impacts of the undertaking and proposed mitigation measures the same as those considered in the existing water licence?	
✓ Yes □ No  Describe direct, indirect, and cumulative impacts related to water and waste.	
No impact to environment in discharging sewage waste or dumping solid waste at respective facilities. As noted by Environment Canada (EC) in its submission on January 09, 2009, that effluent standards for sewage treatment should meet parameters set in the guidelines for discharge in the NWT and should met at the final discharge point of Sewage Lagoon (end-of-pipe) and not at the end of wetland. NWB limits the quality of effluent for the lagoon discharge that is consistent and in compliance with Section 36(3) of the <b>Fisheries Act</b> .	
Sewage Waste: The new sewage lagoon with approximate capacity of over 126,000 m3 for 20 years life cycle. It has increased the retention time in the lagoon for over 360 days. There is always water over the maximum thickness of sludge when it is fully discharged, this prevent 'flow through' of sewage during the period of discharge and maintain active effluent treatment continuous during discharge.	
Solid waste and landfill:	
The solid waste site covers an area approximately 1.2 ha, also has expanded additional space near the lower gradient for current and future needs. The facility includes a contaminated soil storage lined cell, a hazardous storage area for metal, waste oil, battery, tire, wood waste and general waste with perimeter fence.	
Soil and spills storage:  No separate land farm facility for contaminated soil or spill materials remediation, but a lined cell for spills and Type B soil contaminated with hydrocarbons, petroleum product of fuel oil and/or diesel fuel or gasoline. The hamlet uses a metal container inside the liner cell to store contaminated soil or spills petroleum products which prevent any leaching out of contaminated materials.	
18. WATER RIGHTS OF EXISTING AND OTHER WATER USERS  Are the effects of the undertaking on any known persons or property including those that hold licences for water	- er

use in precedence to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature, the same as those considered in the existing water licence?
☐ Yes ☑ No  Provide the names, addresses and nature of use for any known persons or properties that may be adversely affected by the proposed undertaking, including those that hold licences for water use in precedent to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature.
Advise the Board if compensation has been paid and/or agreement(s) for compensation have been reached with any existing or other users.
19. INUIT WATER RIGHTS
Are the effects of the undertaking on the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL) the same as those considered in the existing water licence?
✓ Yes □ No
Advise the Board of any substantial affect of the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL), and advise the Board if negotiations have commenced or an agreement to pay compensation for any loss or damage has been reached with one or more Designated Inuit Organization (DIO).
20. CONSULTATION - Provide a summary of any consultation meetings including when the meetings were held, where and with whom. Include a list of concerns expressed and measures to address concerns.
Treatment Plant:
The new treatment plant installation completed Dec 2016. The old Treatment Plant used only Cartridge filters
and chlorination before truck-fill which was very costly in changing cartridges more frequently to respond more turbidity in water and not completing requirements of salt intrusion when it appears in summer and fall.
With the help of the new Treatment Plant, more effective measures are taken to solve issues of high turbidity and minimizes salt wedge in water by passing water over roughen sand or slow sand bedding.
21. SECURITY INFORMATION
Is the financial security assessment the same as that considered in the existing water licence? Not applicable
☐ Yes ☐ No Is the estimate of the total financial security for final reclamation the same as that considered in the existing water licence?  ☐ Yes ☐ No
Provide an estimate of the total financial security for final reclamation equal to the total outstanding reclamation liability for land and water combined sufficient to cover the highest liability over the life of the undertaking. Estimates of reclamation costs must be based on the cost of having the necessary reclamation work done by a third party contractor if the operator defaults. The estimate must also include contingency factors appropriate to the particular work to be undertaken.
Where applicable, the financial security assessment should be prepared in a manner consistent with the principals respecting mine site reclamation and implementation found in the <i>Mine Site Reclamation Policy for Nunavut</i> , Indian and Northern Affairs Canada, 2002.

22. FINANCIAL INFORMATION		
Is the statement of financial security the	same as that considered in the existing w	ater licence? Not required
Provide an updated statement of financia		
If the applicant is a business entity pleas	e answer the questions below. he same as those considered in the existi	ng water licence?
to the net of the embere of the company t	ine came as those considered in the colon	ng water neeries.
Provide a list of the officers of the compa	☐ Yes ☐ No any.	
Is the Certificate of Incorporation or evid	ence of registration of the company name	the same?
	☐ Yes ☐ No	
Attach a copy of the Certificate of Incorp	oration or evidence of registration of the c	ompany name.
23. STUDIES UNDERTAKEN TO DA	ATE	
List and attach updated studies, reports	research etc.	
	ndum submission to NWB as requested	in previous licence letter:
(i) Addendum to Sewage Treatment	t O&M manual	•
(ii) Addendum to Spill Contingency p		
(iii) Addendum to Water intake and to	reatment plant O&M manual	
Provide a compliance assessment and	status report including a response to any i	nenector's reports. The licenses
	ic direction in completing the assessment	
If in non-compliance, a licence may not	be issued until compliance is achieved. If	in non-compliance, attach
	tion will not be processed if significant issu	
planto, repente les constantes en l'approc	р. осоосоо и олд. и осо	pienes exists
24. PROPOSED TIME SCHEDULE		
Is the time schedule for all phases of de	velopment (construction, operations, closu	ire and nost closure) the same as
that considered in the existing licence?	velopment (constituent), operations, close	are and post diodard, the same as
· ·	_	
	✓ Yes □ No	
operation, closure, and post closure).	on dates for each applicable phase of dev	elopment (construction,
Construction: missing intake sci	reen at new IPH	
Proposed Start Date: April,		August, 2021
	h/year)	(month/year)
<u>Operation</u>		
	st 2021 Proposed Completion Date: h/year)	Aug 2021 (month/year)
Closure		
Proposed Start Date:	Proposed Completion Date: h/year)	(month/year)
Post - Closure	ıı/yeai <i>)</i>	(IIIOIIII/year)
Proposed Start Date:	Proposed Completion Date:	

(month/year)	(month/year)		
For each applicable phase of development indicate which season(s) activities occur.			
Construction: ☐ Winter ☐ Spring ☑ Summer ☑ Fa	II All season		
Operation:  Winter Spring Summer Fall	✓ All season		
<u>Closure</u> ☐ Winter ☐ Spring ☐ Summer ☐ Fal	All season		
<u>Post - Closure</u> ☐ Winter ☐ Spring ☐ Summer ☐ Fal	All season		
25. PROPOSED TERM OF LICENCE			
On what date does the existing licence expire? Dec <u>07, 2020</u>			
Indicate the proposed term of the renewal (maximum of 25 years): Ten (10) years			
Requested date of renewal issuance: Dec 01, 202 (month/yea			
(The requested date of renewal issuance must be <u>at least</u> three (3) months from the date of application for a type B water licence and <u>at least</u> one (1) year from the date of application for a type A water licence, to allow for processing of the water licence application. These timeframes are approximate and do not account for the time to complete any pre-licensing land use planning or development impact requirements, time for the applicant to prepare and submit a water licence application in accordance with any project specific guidelines issued by the NWB, or the time for the applicant to respond to requests for additional information. See the NWB's <i>Guide 5: Processing Water Licence Applications</i> for more information)			
26. ANNUAL REPORTING			
Is the annual report template expected to be the same as that considered in the existing licence?			
✓ Yes □ No			
If not using the NWB's <u>Standardized Form for Annual Reporting</u> , provide details regarding the content of annual reports and a proposed outline or template of the annual report.			
27. CHECKLIST			
The following must be included with the application for renewal for the water licensing process to begin.			
Completed Application for Water Licence Renewal form.			
✓ Yes □ No If	no, date expected		

Updated plans, including designs and reports (see Block 23).			
✓ Yes	□No	If no, date expected	
Updated security ass	essment (see Block	< 21).	
☐Yes	☑ No	If no, date expected	
Updated financial statement (see Block 22).			
☐Yes	☑ No	If no, date expected <u>not applicable</u>	
Compliance Assessment / Status Report (see Block 23).			
☐ Yes	☑ No	If no, date expected _Not applicable	
English Summary of Renewal Application.			
✓ Yes	□No	If no, date expected	
Inuktitut and/or Inuinnaqtun Summary of Renewal Application.			
Yes	☑ No	If no, date expected Oct 05, 2020	
Application fee of \$30.00 CDN (Payee Receiver General for Canada).			
✓ Yes	□No	If no, date expected	
Water Use Fee Deposit of \$30.00 CDN (Payee Receiver General for Canada). The actual water use fee will be calculated by the NWB based upon the amount of water authorized for use in accordance with the Regulations at the time of issuance of the licence.			
☐ Yes	☑ No	If no, date expected Not applicable	
28. SIGNATURE			
1, <u>Limberley Young</u> (print name)			
certify that the application requires no changes to water use or waste disposal as previously authorized and that the information given on this form is, to the best of my knowledge, correct and complete.			
Bignature Sept, 25, 2020 Date Date			



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Department of Community and Government Services Nunalingni Kavamatkunnilu Pivikhaqautikkut Ministère des Services Communautaires et gouvernementaux

Water Licence: 3BM-KUG 1520 addendum

**September 18, 2020** 

Nunavut Water Board P.O. Box 119 Gjoa Haven, NU X0B 1L0

Attention: Richard Dwer, Manager of Licensing

RE: Spill Contingency Plan (SCP), November 2014 - addendum Sewage Treatment O&M manual, May 2014 - addendum

Reference: NWB Letter December 08, 2015 - Amendment Licence 3BM-KUG 1520

#### Dear Richard,

The Hamlet of Kugluktuk is pleased to submit to Nunavut Water Board the attached files of Spill Contingency Plan and Sewage Treatment O&M manual-addendums to the Water Licence 3BM-KUG 1520 as requested. The enclosed updated documents are:

- Spill Contingency Plan with addendum
- Sewage Treatment O&M manual addendum

We hope that Nunavut Water Board will find the Spill Contingency Plan-addendum and O&M manual-addendum effective to process the renewal Water Licence for Kugluktuk municipality.

GN-CGS is submitting this plan on behalf of the Hamlet of Kugluktuk.

#### Best Regards,

Shah Alam, P. Eng. E.P., CAMP Municipal Planning Engineer, Government of Nunavut Community and Government Services Kitikmeot Region, Cambridge Bay, Nu Phone: 867-983-4156, fax: 867-983-4123, salam@gov.nu.ca

P.O. Bag 200, Helen Maksagak Centre Cambridge Bay, Nunavut X0B 0C0

# Sewage Treatment Facility O&M manual, May 2014 Prepared by: Nuna Burnside Engineering and Environmental Ltd.

### Item 1.2 Nunavut Water Board License

Current contents: License NWB3KUG0308
Replace with: License 3BM KUG 1520

### Item 1.4 Sewage volumes

#### Item 3.1 Overview

Current contents: The lagoon will be fenced

Replace with: The lagoon berm is fully fenced with walkway inside the fence on the berm

## Item 3.3.1 Existing lagoon

current: The old lagoon has yet to be commissioned Replace: The old lagoon has been decommissioned

current: the former lagoon will be desludged with the sludge transferred

Replace: the former lagoon was desludged and level gradients towards the wetland

Current: A decommissioning plan has developed.... the topography of the area the old sewage facility has been decommissioned. Metal spillway has been

removed and berm materials were pushed to infill lagoon area and levelled.

### Item 3.3.4 Gas under Synthetic Liner (1st paragraph)

Current: the remaining bubbles will not be removed......Operation of the lagoon
Replace with: remaining bubbles hopefully be removed through a maintenance work later

## Item 3.7.2 Monitoring stations

Current: KUG-1 ..... KUG-4A ..... WS-4

Replace with:

Station	Description	Comments
KUG-1	Raw Water intake location at Coppermine River	Volume of water intake annually
KUG-2	Solid waste run-off effluent sampling location	sampling June-Sep and as available
KUG-3	Raw sewage deposition from truck off-load	Volume of sewage deposition
KUG-3A	Decanting location from sewage lagoon inside	Sampling when decanting in plan
KUG-4	Effluent outfall from wetland to Coronation Gulf	sampling Jun-Sep as available
KUG-5	Landfill and soil storage run-off towards wetland	Sampling Jun-Sep and as available

Note: surface monitoring stations WS 1 – WS 4 were part of old sewage lagoon effluent quality control, which are no more active since the old sewage lagoon facility was decommissioned.

# Item 3.7.3 (list# 4) Monitoring procedures

Current sentence starts:raw sewage samples will be collected.....several loads
Replace with: raw sewage sample collects from location at KUG-3A decanting inlet point

Prepared by: Shah Alam, MPE. Sep 16, 2020



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Department of Community and Government Services Nunalingni Kavamatkunnilu Pivikhaqautikkut Ministère des Services Communautaires et gouvernementaux

WTP O&M manual Water Licence: 3BM-KUG 1520

**September 18, 2020** 

**Nunavut Water Board** P.O. Box 119 Gjoa Haven, NU X0B 1L0

Attention: Richard Dwer, Manager of Licensing

RE: **Water Treatment Plant O&M manual** Ref: NWB Letter December 08, 2015

#### Dear Richard,

The Hamlet of Kugluktuk is pleased to submit to Nunavut Water Board the attached file of new Water Treatment O&M manual required to the Water Licence 3BM-KUG 1520 as requested.

We hope that Nunavut Water Board will find the O&M manual effective in practicing the water License for water, sewage, and solid waste management programs.

GN-CGS is submitting this plan on behalf of the Hamlet of Kugluktuk.

#### Best Regards,

Shah Alam, P. Eng. E.P, CAMP Municipal Planning Engineer, Government of Nunavut Community and Government Services Kitikmeot Region, Cambridge Bay, Nu

Phone: 867-983-4156, fax: 867-983-4123, salam@gov.nu.ca