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

Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1L0
ATTN: Richard Dwyer, Manager of Licensing

Re: 3BM-TAL 1926 Taloyoak Water License Amendment

Dear Richard,

Please find enclosed the Water License Amendment Application for the Hamlet of Taloyoak to modify the effluent parameters of the existing water license. In support of this proposed amendment, the following documents are attached:

- Letter of Conformity from the Nunavut Planning Commission
- Memo for Taloyoak Water License Amendment, Exp, April 12 2021
- Recommendations for Municipal Wastewater Standards, Exp, November 2018
- Redlined 3BM-TAL 1926 Taloyoak Water License
- 2014 Taloyoak WL Application, Environment Canada Comments, January 6 2014
- 2014 Taloyoak WL Application, CGS Response to EC, September 26 2014

Additionally, for the records of the NWB, the recently completed business case for the proposed Taloyoak Wastewater Facility has been attached. It is noted that this proposed facility has been approved by the NWB through the 2019 Taloyoak Water License Renewal and that no amendment is required prior to construction.

As per requirements, the application fee of \$30.00 has been paid to the Board (Receiver General for Canada). CGS is submitting this License Amendment Application on behalf of the Hamlet of Taloyoak.

Sincerely,

Sarah Collins, P.Eng.

Acting Manager of Municipal Works

Community and Government Services – Community Support Division

Government of Nunavut

Iqaluit, NU XOA 0H0 Phone: 867-975-5478



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- 3BM-TAL 1926 CJ440 ALCL4°DDN

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Receiver General for Canada

**thirty and 00/100 Dollars

HAMLET OF TALOYOAK

P.O. BOX 8 TALOYOAK, NU X0B 1B0 Tel: (867) 561-2300

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WATER LICENSE AMEND 2021-06-04

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Executive Summary Water License Amendment for 3BM-TAL 1926

The Hamlet of Taloyoak (the Licensee) is responsible for the supply of potable water and for the disposal of wastewater, solid waste, and metal waste to lagoon and landfill facilities. These activities currently operate under water license 3BM-TAL 1926, which is active until December 7, 2026. It is proposed that this existing water license be amended to take the following into account:

- 1) Page vii, the paragraph related to acute toxicity testing is proposed to be removed. This is because, as described below, CGS proposes that Part D, Item 9 be removed in its entirety.
- 2) CGS recommends that Part D, Item 3 be removed. The sewage treatment facility is designed to meet effluent targets at the downstream end of the wetland (TAL-6). Effluent sampled at the discharge point from the existing natural lagoon to the wetland has only been partially treated as such, effluent quality at TAL-3 is not indicative of the treatment capabilities of the unabridged wastewater treatment facility. It is proposed that effluent that is discharged at TAL-3 be sampled, but the effluent quality limits at this location be removed. Placing one compliance point at the downstream end of the wetland (in this case, at TAL-6) is consistent with how most lagoon/wetland systems are held compliant in Nunavut.
- 3) CGS recommends Part D, Item 7.i. be amended to remove the reference to monitoring requirements under Part D, Item 9.
- 4) CGS recommends that Part D, Item 8, (i.e. the effluent requirements at TAL-6) be adjusted to the following:

CBOD = 100 mg/LTSS = 120 mg/L

It is proposed that all other parameters remain as is. As is discussed in the attached documentation, the WSERs requirement of 25 mg/L for CBOD and TSS cannot be reliably achieved in Nunavut using a lagoon/wetland treatment system, particularly when removing the reliance on dilution. While the existing system has displayed effluent results within these limits and the upgraded system is expected to improve treatment of effluent through use of best practices for lagoon and wetland systems, the effluent will no longer be impacted by significant dilution and quick removal of more concentrated effluent during the first flush of spring freshet. This proposal is consistent with outputs of research conducted by Dalhousie University as summarized in the attached EXP documents. This is also consistent with the position of the GN in ongoing discussions between the GN and federal counterparts related to an equivalent WSERs standard for Nunavut.

- 5) CGS proposes that Part D, Item 9 be removed in its entirety. In lieu of the logistically-challenging Acute Lethality test, it is proposed that unionized ammonia continue to be monitored and held compliant to 1.25 mg/L at TAL-6. This is consistent with the outputs of research conducted by Dalhousie University as summarized in the attached EXP document, and is also consistent with the position of the GN in ongoing discissions related to an equivalent WSERs standard for Nunavut.
- 6) CGS proposes that Part I, Item 7 be removed in its entirety. This is because, as described above, CGS proposes that Part D, Item 9 be removed in its entirety.

- 1) $\text{L}^{\text{b}} \wedge^{\text{b}} \text{U}^{\text{b}}$ vii, $\text{NNS}^{\text{b}} \text{LL}^{\text{c}} \wedge^{\text{c}} \text{LL}^{\text{b}} \text{DG}^{\text{c}}$ to $\text{NNS}^{\text{c}} \text{LL}^{\text{b}} \wedge^{\text{c}} \text{DG}^{\text{c}}$ vii, $\text{NNS}^{\text{c}} \text{LL}^{\text{c}} \wedge^{\text{c}} \text{DG}^{\text{c}}$ vii, $\text{NNS}^{\text{c}} \text{LL}^{\text{c}} \wedge^{\text{c}} \text{DG}^{\text{c}}$ viii, $\text{NNS}^{\text{c}} \wedge^{\text{c}} \text{DG}^{\text{c}} \text{DG}^{\text{c}}$ viii) viii, $\text{NNS}^{\text{c}} \wedge^{\text{c}} \text{DG}^{\text{c}} \text{DG}^{\text{c}} \text{DG}^{\text{c}} \text{DG}^{\text{c}} \text{DG}^{\text{c}} \text{DG}^{\text{c}} \text{DG}^{\text{c}} \text{DG}^{\text{c}} \text{DG}^{\text{c}$
- 2) ውዉሮችው ሁዲኮ⁴ቄውና Δ ለትናበናቱበቱና ልፎችሁታናንቱ D, በበናና/Lላቴ 3– Γ ና ለናርኦናሪቴ ውታላቴ. የሲውነናል ላቴትዮት/Lላቴ Lሮሁ/ትጋበቱ ዕልናቴናርንውና ልላላው ልLቴት/ሩ (TAL-6). ዕልናቴናርንና ልላላው የሲውነቴናልች Γ ና ልLና/ችጋና ልርል ሴ ተር ለተመሰው ለርሲላት/Lላቴ $\dot{\Gamma}$ ር ለተመሰው ለርሲላት/Lላቴ $\dot{\Gamma}$ ር ለተመሰው ለርሲላት/Lላቴ $\dot{\Gamma}$ ር ለተመሰው ለተመ
- 3) ውዉሮችው ሁዊL⁵ቄትውና Δ ለትናበናጭበጐያና Δ ርጐሁውና Δ 0, በበናናረLላጭ 7.i. ላጭየቦላጭርኦውው Δ ናርኦናያትዎና የচላርላናልላኒጭ ኦንትጭጋሲላናይናውም Δ ርጐሁው Δ 0, በበናናረLላ୮ና 9.
- 4) ውዉሮ $^{\circ}$ ታ ሀዲኮቴ $^{\circ}$ ታ ለትናበና $^{\circ}$ በ $^{\circ}$ ዕ ልር $^{\circ}$ ሀታና D, በበናናረኒላ $^{\circ}$ 8, (ታን ዕልላውና ላጋናርኦኦሲላርና TAL-6-Гና) ላ $^{\circ}$ የቦላ $^{\circ}$ ርኦጋበ $^{\circ}$ Δ $\dot{}$ ኮ:

CBOD = 100 mg/LTSS = 120 mg/L

- 5) Δ ልርግታ ሁዲĿቴትኖሩ Δ ለትናበናቱበነቴና ጋትረናቱጋጭ Δ ርዲሁታናጋጭ D, በበናናረዚላጭ 5 $\dot{\Delta}$ ናርኦውታ ርዜልኖቴ. ዮህኖልናጋቦር ላታረንናኒናራንና ጋናፊት ሲተርሎንውና የዕኦትና ታጭና, ጋትረናናርኦዎጭ Δ ርርፖሁ ኦንትጭረጭርኦስት ሲናራካው ተርሎበርኦስት ሲናራካው 1.25 mg/L ኦዊታ TAL-6. ኦժላ ተርሎንና ጋላናልኦላታ የዕኦትላንበልታጭና ርናዘላኦላ ተርርጋጭላናልንላላጭ ሲልሴጭረተር ውና Δ ርርኦስትናልንላላጭ ሲልሴጭረተር ውና Δ ርርኦስትናልንላላጭ ሲልሴጭረተር ውና Δ ርርኦስትናልንላላጭ ሲልሴጭሪተር ውና Δ ርርኦስትናልንላላጭ ሲልሴጭሪተር ለንትናጋዮና የአንደ ለንተረኦላታና ውር የተረቀመር መርጀትር ለንተረኦላታና ውር የተረቀመር ለንተረቅ ለንተረቅ ለመርጀትር ለንተረቅ ለንተረቅ ለመርጀትር ለመርጀትር ለንተረቅ ለመርጀትር ለመርጀትር ለንተረቅ ለመርጀትር ለንተረቅ ለመርጀትር ለንተረቅ ለመርጀትር ለንተረቅ ለመርጀትር ለንተረቅ ለመርጀትር ለመርጀትር ለንተረቅ ለንተረቅ ለመርጀትር ለንተረቅ ለንተረቅ ለመርጀትር ለንተረቅ ለንተረቅ ለመርጀትር ለንተረቅ ለንተረቅ ለንተረቅ ለመርጀትር ለንተረቅ ለመርጀትር ለንተረቅ ለንተርቅ ለንተረቅ ለንተረቅ ለንተር



Application for Water Licence Amendment

Document Date: April 2013

Application Submission Date:

June 17, 2021 Month/Day/Year

P.O. BOX 119 GJOA HAVEN, NUNAVUT XOB 1J0 Tel:(867)360-6338 FAX(867)360-6369

kNK5 wmoEp5 vtmpq NUNAVUT IMALIRIYIN KATIMAYIT NUNAVUT WATER BOARD OFFICE DES EAUX DU NUNAVUT

DOCUMENT MANAGEMENT

Original Document Date:

April 2010

DOCUMENT AMENDMENTS

	Description	Date
(1)	Updated for public distribution as separate document from NWB Guide 7	June 2010
(2)	Updated NWB logos and reformatted table to allow rows to break across page	May 2011
(3)	New NWB logo; request for background information; and change to Block 24	April 2013
(4)		
(5)		
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P.O. BOX 119

TEL: (867) 360-6338 FAX: (867) 360-6369

kNK5 wmoEp5 vtmp5 GJOA HAVEN, NU X0B 1J0 NUNAVUT WATER BOARD NUNAVUT IMALIRIYIN KATIMAYIT OFFICE DES EAUX DU NUNAVUT

APPLICATION FOR WATER LICENCE AMENDMENT

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

Where possible, provide background information regarding the original licence application or attach previously submitted information.

EXISTING LICENCE NO: 3BM-1926
1. LICENSEE CONTACT INFORMATION
Is the licensee the same as that referred to on the existing licence?
x Yes □ No
If No, a licence assignment must be completed and approved by the NWB. An amendment 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 Taloyoak Attn: Janice Anderson, SAO
Address: PO Box 8, Taloyoak, NU, X0B 1B0
Phone: 867-561-2302 Fax: 867-561-5057 e-mail: sao@taloyoak.ca
2. LICENSEE REPRESENTATIVE CONTACT INFORMATION – If different from Block 1.
Name: Sarah Collins, P.Eng. Acting Manager of Municipal Works
Address: PO Box 1000, Stn 700 (4th Floor, Brown Building) Igaluit NU X0A 0H0

Dhone	007 07E E470		
Fax:	∍: 867-975-5478 N/A		
	l: scollins@gov.nu.ca		
(Attacl	h authorization letter.)		
3.	NAME OF PROJECT		
Has the	e name of the project changed?		
		Yes	× No
If Yes,	indicate the name of the project including th	he name	of the location:
4.	LOCATION OF UNDERTAKING		
Does	the proposed amendment change the locat	tion of the	e amended undertaking?
] Yes	× No
Provid	de the project extents and camp locations. I	ldentify pr	roposed changes.
Project	t Extents		
NW: NE: SE: SW:	Latitude: (° ' "N) Latitude: (° ' "N) L	.ongitude: .ongitude:	: (93 ° 31 ' 0 " W) : (° ' " W) : (° ' " W) : (° ' " W)
Camp	Location(s)		
Latitud	de: (° ' "N) Lo	ongitude:	(° ' "W)
5.	MAP		
Does th	he proposed amendment change the location	ons of an	y of the main components of the undertaking?
		Yes	× No
Attach	a topographical map, indicating the main co	omponen	ts of the undertaking. Identify proposed changes.
NTS M	ap Sheet No.: Map Name	e:	Map Scale:

NATURE OF INTEREST IN THE LAND
oes the proposed amendment change the nature of the interest in the land?
☐ Yes × No
Yes, indicate changes
Check any of the following that are applicable to the proposed undertaking (at least one box under the Surface' header must be checked).
Sub-surface
Mineral Lease from Nunavut Tunngavik Incorporated (NTI) Date (expected date) of issuance: Date of expiry:
Mineral Lease from Indian and Northern Affairs Canada (INAC) Date (expected date) of issuance: Date of expiry:
Surface
Crown Land Use Authorization from Indian and Northern Affairs Canada (INAC) Date (expected date) of issuance: Date of expiry:
Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA) Date (expected date) of issuance: Date of expiry:
☐ IOL Authorization from Kivalliq Inuit Association (KivIA) Date (expected date) of issuance: Date of expiry:
☐ IOL Authorization from Qikiqtani Inuit Association (QIA) Date (expected date) of issuance: Date of expiry:
Commissioner's Land Use Authorization Date (expected date) of issuance: Date of expiry:
Other
Date (expected date) of issuance: Date of expiry:
the name of the entity(s) holding authorizations the same as that considered in the existing water cence?
x Yes □ No
No, a licence assignment must be completed and approved by the NWB.

Name of entity(s) holding authorizations:	
Hamlet of Taloyoak	
7. NUNAVUT PLANNING COMMISSIO	ON (NPC) DETERMINATION
Indicate the land use planning area in which	the existing project is located.
☐ North Baffin ☐ South Baffin ☐ Akunniq	☐ Keewatin☐ SanikiluaqX West Kitikmeot
Does the proposed amendment change the	land use planning area?
	☐ Yes x No
If yes, indicate the land use planning area in	which the amended undertaking is located.
North BaffinSouth BaffinAkunniq	
Was a land use plan conformity determination licence?	on required from NPC prior to the issuance of the existing water
	X Yes No
If Yes, indicate date issued and attach copy	·
Does the proposed amendment change the	original NPC conformity determination or the need to obtain one?
	X Yes No
the conformity decision)	attach a copy.(Give date we heard back from NPC and attach confirming that a land use plan conformity review is not required.
8. NUNAVUT IMPACT REVIEW BOAR	RD (NIRB) DETERMINATION
Was a screening determination required from	m NIRB prior to the issuance of the existing water licence?
	☐ Yes x No
If Yes, indicate date issued and attach copy	/
Does the proposed amendment change the one?	original NIRB screening determination or the need to obtain
	☐ Yes 🗶 No
If Yes, indicate date issued (or expected) ar If No, provide written confirmation from NIR	nd attach a copyB confirming that a screening determination is not required.

9.	DESCRIPTION OF UNDERTAKING		
Does	the proposed amendment change the description	of the undertaking?	
	□Yes	× No	
List ar	nd attach plans and drawings or project proposal.	Identify proposed changes.	
10.	OPTIONS		
	the proposed amendment change any of the alter ry out the project?	native methods and locations that were conside	ered
	☐ Yes	× No	
	de a brief explanation of the alternative methods on the control of the determinant of the determinant of the control of the c	r locations that were considered to carry out the	•
11.	CLASSIFICATION OF PRIMARY UNDERTAK	ING	
Indic boxe	ate the primary classification of undertaking for sec.	the existing licence by checking one of the	following
	☐ Industrial☐ Mining and Milling (includes exploration/drill☐ Conservation	_	
	★ Municipal (includes camps/lodges)☐ Power	☐ Recreational ☐ Miscellaneous (describe below):	
Does	the proposed amendment change the classificati	on of primary undertaking?	
	☐ Yes	× No	
If Yes	s, indicate the primary undertaking of the amendn	ent:	
	mation in accordance with applicable Supplement nitted with an Application for Amendment. Indicat		
	☐ Hydrostatic Testing ☐ Tannery ☐ Tourist / Remote Camp ☐ Landfarm & On-Site Storage of Hydrocarbor ☐ Onshore Oil and Gas Exploration Drilling ☐ Mineral Exploration / Remote Camp ☐ Advanced Exploration ☐ Mine Development	Contaminated Soil	

Power
12. WATER USE
Indicate, using the boxes below, the types of water use(s) approved in the existing licence.
★ To obtain water for camp/ municipal purposes ☐ To obtain water for industrial purposes ☐ To divert a watercourse ☐ To modify the bed or bank of a watercourse ☐ To alter the flow of, or store water ☐ Other:
Does the proposed amendment change the type(s) of water use(s)?
☐ Yes × No
If Yes, indicate using the boxes below, the proposed change(s) to the type(s) of water use(s) noting any water use(s) that are to be added, continued, or removed.
☐ To obtain water for camp/ municipal purposes ☐ To obtain water for industrial purposes ☐ To cross a watercourse ☐ To alter the flow of, or store water ☐ Other:
13. QUANTITY OF WATER INVOLVED
Does the proposed amendment change the source of water? ☐ Yes 🗶 No
- · · · · · · · · · · · · · · · · ·
Indicate the water source(s). Identify proposed changes.:
(show location(s) on map)
Does the proposed amendment change the quality of the water source and/or its available capacity?
☐ Yes × No
Describe the quality of the water source(s) and the available capacity(s). Identify any changes.:
Does the proposed amendment change the overall quantity of water to be used?
☐ Yes × No
Provide the overall estimated quantity to be used. Identify proposed changes. : m³/day
Does the proposed amendment change the quantity of water to be used from each source?

		☐ Yes X No
Provid	de the estimated quantity(s) of water to b	be used from each source. Identify proposed changes.:
Does	the proposed amendment change the qu	uantity of water to be used for each purpose?
		☐ Yes X No
Provid	le the estimated quantities to be used for	or each purpose (camp, drilling, etc.). Identify proposed changes.:
Does	the proposed amendment change the m	nethod(s) of extraction?
Descr	ibe the method(s) of extraction. Identify	proposed changes. :
Does	the proposed amendment change the qu	uantity(s) of water returned to source(s)?
		☐ Yes X No
Estim	ated quantity(s) of water returned to sour	rce(s). Identify proposed changes. : m³/day
Does	the proposed amendment change the qu	uality(s) of water returned to source(s)?
		∏Yes x No
Desc	ribe the quality(s) of water(s) returned to	source(s). Identify any changes. :
14.	WASTE	
Checl	the appropriate box(s) to indicate the ty	pes of waste(s) approved in the existing licence.
	★ Sewage	×Waste oil
	★ Solid Waste	× Greywater
	★ Hazardous★ Bulky Items/Scrap Metal	★ Sludges ★ Contaminated soil and/or water
	★ Animal Waste	Contaminated soil and/or water
Does	the proposed amendment change the ty	rpe(s) of waste(s) to be generated or deposited?
		☐ Yes x No
		oposed change(s) to the type(s) of waste(s) to be generated or continued generation and/or disposal of waste(s).
	☐ Sewage	☐ Waste oil
	Solid Waste	Greywater
	☐ Hazardous ☐ Bulky Items/Scrap Metal	☐ Sludges ☐ Contaminated soil and/or water
	Animal Waste	
	Other (describe):	

☐ Yes X No ☐ Yes X No ☐ Ones the proposed amendment change the method(s) of treatment for the types of waste ☐ Yes X No ☐ Ones the proposed amendment change the method(s) of disposal for the types of waste in ☐ Yes X No ☐ Yes X No ☐ Yes to any of the above, describe the proposed changes: ☐ ☐ Ones the proposed amendment change the method of treatment and method of disposal. ☐ ☐ Ones the proposed amendment change the method(s) of disposal for the types of waste in ☐ Yes X No ☐ Y	
Does the proposed amendment change the composition(s) of the types of wastes involved Yes	dment change the composition(s) of the types of wastes involved? Yes × No Iment change the method(s) of treatment for the types of waste involved? Yes × No Iment change the method(s) of disposal for the types of waste involved? Yes × No describe the proposed changes: icated in Block 14, describe its composition, quantity in cubic meters/day, nethod of disposal.
□ Yes × No Does the proposed amendment change the method(s) of treatment for the types of waste □ Yes × No Does the proposed amendment change the method(s) of disposal for the types of waste in □ Yes × No If Yes to any of the above, describe the proposed changes: For each type of waste indicated in Block 14, describe its composition, quantity in cubic method of treatment and method of disposal. Type of Waste Composition Quantity Treatment	☐ Yes × No Imment change the method(s) of treatment for the types of waste involved? ☐ Yes × No Imment change the method(s) of disposal for the types of waste involved? ☐ Yes × No ☐ describe the proposed changes: ☐ icated in Block 14, describe its composition, quantity in cubic meters/day, nethod of disposal. Quantity Treatment Disposal
Does the proposed amendment change the method(s) of treatment for the types of waste Yes	ment change the method(s) of treatment for the types of waste involved? Yes × No Imment change the method(s) of disposal for the types of waste involved? Yes × No describe the proposed changes: icated in Block 14, describe its composition, quantity in cubic meters/day, nethod of disposal. Quantity Treatment Disposal
☐ Yes X No Does the proposed amendment change the method(s) of disposal for the types of waste in ☐ Yes X No ☐ Yes to any of the above, describe the proposed changes: ☐ Or each type of waste indicated in Block 14, describe its composition, quantity in cubic method of treatment and method of disposal.	☐ Yes X No Iment change the method(s) of disposal for the types of waste involved? ☐ Yes X No describe the proposed changes: icated in Block 14, describe its composition, quantity in cubic meters/day, nethod of disposal. Quantity Treatment Disposal
Opes the proposed amendment change the method(s) of disposal for the types of waste in Yes × No Yes to any of the above, describe the proposed changes: For each type of waste indicated in Block 14, describe its composition, quantity in cubic method of treatment and method of disposal.	dment change the method(s) of disposal for the types of waste involved? Yes
Yes X No Types to any of the above, describe the proposed changes: For each type of waste indicated in Block 14, describe its composition, quantity in cubic method of treatment and method of disposal. Type of Waste Composition Quantity Treatment	☐ Yes X No describe the proposed changes: icated in Block 14, describe its composition, quantity in cubic meters/day, nethod of disposal. Composition Compos
Yes to any of the above, describe the proposed changes: or each type of waste indicated in Block 14, describe its composition, quantity in cubic method of treatment and method of disposal. Composition Quantity Treatment	icated in Block 14, describe its composition, quantity in cubic meters/day, nethod of disposal. Quantity Treatment Disposal
or each type of waste indicated in Block 14, describe its composition, quantity in cubic method of treatment and method of disposal. Output	icated in Block 14, describe its composition, quantity in cubic meters/day, nethod of disposal. Quantity Treatment Disposal
or each type of waste indicated in Block 14, describe its composition, quantity in cubic method of treatment and method of disposal. Output	icated in Block 14, describe its composition, quantity in cubic meters/day, nethod of disposal. Quantity Treatment Disposal
nethod of treatment and method of disposal. Quantity Treatment	nethod of disposal. Quantity Treatment Disposal
nethod of treatment and method of disposal. Quantity Treatment	nethod of disposal. Quantity Treatment Disposal
Generated Method	Generated Method Method
The state of the s	

16. OTHER AUTHORIZATIONS
Does the proposed amendment change the need for other authorizations in addition to the sub-surface and surface land use authorizations provided in Block 6?
☐ Yes × No
If Yes, indicate any additional authorizations required, which authorizations are no longer required, and which authorizations continue to be required.
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
Does the proposed amendment change the predicted environmental impacts of the undertaking or the mitigation measures?
☐ Yes × No
Describe direct, indirect, and cumulative impacts related to water and waste. Identify any changes.
While the proposed amendment will not change the predicted environmental impacts of the wastewater treatment facility, it does seek to amend several items related to effluent criteria.
Generally, references related to how the effluent quality at the end of the wastewater treatment system should strive to meet or exceed the Wastewater Systems Effluent Regulations SOR/2012-139 Fisheries Act Registration 2012-06-29 (i.e. 'WSERs') are proposed to be removed. These WSERs criteria do not apply to Nunavut. Alternate criteria, developed through work by Dalhousie field studies and summarized in Recommendations for Municipal Wastewater Standards (EXP, November 2018), are the preferred treatment parameters for Nunavut. As is evidenced in communication between Environment Canada and CGS during the 2014 Taloyoak WL application (dated January 6 2014 and September 26 2014), WSERs regulations were used to inform effluent criteria in the existing water license. Attached documents, Recommendations for Municipal Wastewater Standards (EXP November 2018) and Memo for Taloyoak Water License Amendment (EXP, April 12, 2021) provide support as to why these WSERs criteria should not be applied to Nunavut lagoon/wetland wastewater treatment systems.
Specifically, proposed amendments are outlined in the attached 2019 Water License Redlined document and summarized as follows:
1) Page vii, the paragraph related to acute toxicity testing is proposed to be removed. This is because CGS

proposes that Part D, Item 9 be removed in it's entirety. In lieu of the logistically-challenging Acute Lethality test, it is proposed that unionized ammonia continue to be monitored and held compliant to 1.25 mg/L at TAL-6. This is consistent with the outputs of research conducted by Dalhousie University as summarized in the attached Recommendations for Municipal Wastewater Standards (EXP, November 2018). This is also consistent with the position of the GN in ongoing discussions related to an equivalent WSERs standard for Nunavut.

- 2) CGS recommends that Part D, Item 3 be removed. The sewage treatment facility is designed to meet effluent targets at the downstream end of the wetland (TAL-6). Effluent sampled at the discharge point from the existing natural lagoon to the wetland has only been partially treated as such, effluent quality at TAL-3 is not indicative of the treatment capabilities of the unabridged wastewater treatment facility. It is proposed that effluent that is discharged at TAL-3 be sampled, but the effluent quality limits at this location be removed. Placing one compliance point at the downstream end of the wetland (in this case, at TAL-6) is consistent with how most lagoon/wetland systems are held compliant in Nunavut.
- 3) CGS recommends Part D, Item 7.i. be amended to remove monitoring requirements under Part D, Item 9
- 4) CGS recommends that Part D, Item 8, (i.e. the effluent requirements at TAL-6) be adjusted as follows: CBOD = 100 mg/L

TSS = 120 mg/L

It is proposed that all other parameters remain as is. As is discussed in the attached documentation, the WSERs requirement of 25 mg/L cannot be reliably achieved in Nunavut using a lagoon/wetland treatment system, particularly when removing the reliance on dilution. This proposal is consistent with outputs of research conducted by Dalhousie University as summarized in the attached EXP documents. In ongoing negotiations between the GN and federal counterparts, and is also consistent with the position of the GN in ongoing negotiations related to an equivalent WSERs standard for Nunavut.

- 5) CGS proposes that Part D, Item 9 be removed in it's entirety. In lieu of the logistically-challenging Acute Lethality test, it is proposed that unionized ammonia continue to be monitored and held compliant to 1.25 mg/L at TAL-6. This is consistent with the outputs of research conducted by Dalhousie University as summarized in the attached EXP document, and is also consistent with the position of the GN in ongoing discissions related to an equivalent WSERs standard for Nunavut.
- 6) CGS proposes that Part I, Item 7 be removed in it's entirety. In lieu of the logistically-challenging Acute Lethality test, it is proposed that unionized ammonia continue to be monitored and held compliant to 1.25 mg/L at TAL-6. This is consistent with the outputs of research conducted by Dalhousie University as summarized in the attached EXP document, and is also consistent with the position of the GN in ongoing discussions related to an equivalent WSERs standard for Nunavut.

18. WATER RIGHTS OF EXISTING AND OTHER WATER USERS

users of water during consideration of the existing licence?
☐ Yes ×No
If Yes, provide the names, addresses and the nature of water use by those persons or properties.
Does the proposed amendment adversely affect any known persons or property including those that hold licences for water 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?
☐ Yes × No

Was compensation paid and/or an agreement(s) for compensation been entered into with any existing or other

If Yes, provide the names, addresses and the nature of water use of those persons or properties.
Advise the Board if compensation has been paid and/or an agreement(s) for compensation has been reached with any existing or other water users with respect to the proposed amendment.
19. INUIT WATER RIGHTS
Was compensation paid/ or an agreement(s) for compensation been entered into with any Designated Inuit Organization (DIO) during consideration of the existing licence?
☐ Yes X No If Yes, which DIO(s)
Does the proposed amendment substantially affect the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL)?
☐ Yes × No
If Yes, 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 DIO(s) with respect to the proposed amendment.
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.
The Department of Community and Government Services has been in active consultation for collecting community feedback in regards to environmental compliance and facilities improvements. In addition to the items listed in the 2019 WL renewal application, the following has occurred: • Facilities monitoring meeting by CIRNAC inspector with Hamlet and council –August 13 2020 • Taloyoak Lagoon Presentation to Council by CGS, February 25 2021, Motion No. 21-02-23 for Approval of site and concept of Site 4 for proposed sewage lagoon
21. SECURITY INFORMATION
Does the proposed amendment change the financial security assessment?
☐ Yes ☐ No x N/A
Does the proposed amendment change the estimate of the total financial security for final reclamation?
☐ Yes ☐ No × N/A
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. Identify any changes in the financial security assessment resulting from the proposed amendment.
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 Mine Site Reclamation Policy for

Nunavut, Indian and Northern Affairs Canada, 2002. 22. FINANCIAL INFORMATION
Is the statement of financial security the same as that considered in the existing water licence?
x Yes ☐ No x N/A
Provide an updated statement of financial security.
If the applicant is a business entity please answer the questions below:
Is the list of the officers of the company the same as those considered in the existing water licence?
× Yes □ No
Provide a list of the officers of the company.
Janice Anderson–Senior Administrative Officer (SAO) David Irqiut –Asst. Senior Administrative Officer (ASAO) James Das–Finance Controller Ashoona Irqiut–Hamlet Forman and Director of works James Tooloorealik-water Treatment Plant Operator Jerome Kripanik–Week end water treatment operator
Is the Certificate of Incorporation or evidence of registration of the company name the same?
☐ Yes ☐ No x N/A
Attach a copy of the Certificate of Incorporation or evidence of registration of the company name.
23. STUDIES UNDERTAKEN TO DATE
List and attach updated studies, reports, research etc.
2014 WL Application - Environment Canada Comments - January 6 2014 2014 WL Application - CGS Response to EC - September 26 2014 Recommendations for Municipal Wastewater Standards - Exp - November 2018 Memo for Taloyoak Water License Amendment - Exp - April 12 2021 2019 WL - 3BM-TAL1926_Redlined
Additionally, the final Business Case for the proposed Taloyoak lagoon has been completed. This is attached for the records of the NWB.
Taloyoak Wastewater Business Case - Exp - February 17 2021
Provide a compliance assessment and status report including a response to any inspector's reports. The licensee must contact the NWB for licence specific direction in completing the assessment and report.
If in non-compliance, a licence may not be issued until compliance is achieved. If in non-compliance, attach plans/reports for consideration. Application will not be processed if significant issues of non-compliance exist.

24.	PROPOSED TIME SCHEDULE							
Whei	When are proposed amendments scheduled to be undertaken: During the annual effluent sampling program							
Does the proposed amendment change the time schedule considered in the existing licence for any phase of development?								
☐ Yes × No								
Indicate the start and completion dates for each applicable phase of development (construction, operation, closure, and post closure). Identify proposed changes.								
	Construction: Sewage Lagoon Construction							
	Proposed Start Date: <u>July/August 2022</u> Proposed Completion Date: <u>October 2024</u> (month/year) (month/year)							
	<u>Operation</u>							
	(month/year) (month/year)							
	Closure Proposed Start Date: Proposed Completion Date:							
	(month/year) (month/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 ★ Fall ☐ All season							
	Operation ☐ Winter ☐ Spring ☐ Summer ☐ Fall ★ All season							
	Closure							
	☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season							
	Post - Closure Winter Spring Summer All season							
25.	PROPOSED TERM OF LICENCE							
On w	hat date does the existing licence expire?							
Is the Licensee applying for a combined renewal and amendment of the existing licence?								
☐ Yes × No								
If Yes, indicate the proposed term of the renewal (maximum of 25 years):								
Requested date of renewal issuance: Requested Expiry Date:								
- 1040	(month/year) (month/year)							

(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 *Guide 5: Processing Water Licence Applications* for more information)

26.	ANNUAL REP	ORTING					
Will th	Will the proposed amendment change the content of annual reports or the annual report template?						
			☐ Yes X No				
If Yes, provide details regarding the content of annual reports and a proposed outline or template of the annual report.							
27.	CHECKLIST						
The fo	ollowing must be i	ncluded with the applica	tion for Amendment for the water licensing process to begin.				
	Completed Application for Water Licence Amendment form.						
	× Yes	□No	If no, date expected				
	Information addressing Supplement Information Guideline (SIG), where applicable (see Block 11)						
	☐Yes	× No	If no, date expected				
	Compliance Assessment / Status Report (see Block 23).						
	Yes	× No	If no, date expected				
	Indication of Renewal Requirement (see Block 26)						
	☐ Yes X No If no, date expected						
	English Summary of Amendment Application.						
× Yes		If no, date expected					
	Inuktitut and/or Inuinnaqtun Summary of Amendment Application.						
	× Yes	□No	If no, date expected				
	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				

28. SIGNATURE			
JANICE ANDERSON	SAO	fanus Anderson	Jiw 17/21
Name (Print)	Title (Print)	Signature	Date