



**ENGAGEMENT LOG**

**JACKFISH LAKE  
GENERATING FACILITY, NWT  
PLANT #120  
YELLOWKNIFE, NORTHWEST TERRITORIES**

**February 2019**

## DOCUMENT MAINTENANCE AND CONTROL

The Director, Health, Safety & Environment is responsible for the distribution, maintenance and updating of the Engagement Log.

DOCUMENT HISTORY				
Revision #	Revised Section(s)	Description of Revision	Prepared by	Issue Date
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# 1 INTRODUCTION

## 1.1 DESCRIPTION

The Northwest Territories Power Corporation (NTPC) owns and operates the Jackfish Lake Generating Facility (the Jackfish Facility), located on the northeast shore of Jackfish Lake (Stock Lake) in Yellowknife, Northwest Territories (NWT). This essential facility consists of diesel generators that provide backup power to the City of Yellowknife, Ndilo and Dettah when required. There are three separate generation plants: the CAT Plant, the EMD Plant, and the K Plant. Each plant has a cooling system for the generators that uses water from Jackfish Lake. The use of the water from Jackfish Lake for the cooling systems is regulated under Water Licence N1L1-1632, which is held with the Mackenzie Valley Land and Water Board (MVLWB). Water Licence N1L1-1632 was issued in 1995 and expires on December 31, 2019. In order to maintain compliance with the Mackenzie Valley Resource Management Act, the Waters Act and other environmental legislation, NTPC will be applying to renew the water licence for the Jackfish Facility.

As part of the water licence renewal process, NTPC is required to gather input from stakeholders on the application package and to continue engagement throughout the term of the new licence. Engagement will provide an opportunity for stakeholders to contribute knowledge and solutions to the water licence renewal process, which is mutually beneficial to all parties involved.

This log was developed to document the detailed engagement process that NTPC undertook in the months leading up to submitting the water licence renewal application. This engagement process was completed to gather information from stakeholders to help guide on the water licence renewal application. The engagement process was guided by the *Jackfish Lake Generating Facility Engagement Plan* (NTPC, 2019) which was developed through consideration of the MVLWB Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits, and the MVLWB Engagement and Consultation Policy.

## 1.2 JACKFISH FACILITY

The Jackfish Facility is located on the north end of Yellowknife on the northeast shore of Jackfish Lake and is surrounded by chain-link fence (Figure 1, 2 and 3).

The arrangement of buildings from east to west along the south side of the property is as follows: the office building, CAT Plant, EMD Plant, K Plant (the three plants are joined by covered walkways), the warehouse, and the line shop.

The K Plant was built in 1969 and extended in 1988. It contains two Mirrlees KV-16 generators rated at 5,000 kW each but only one is in service at this time. The EMD Plant was built in 1974 and extended in 1988. It contains four EMD's; two E-series generators rated at 2500kW each and two F-series generators rated at 2,850 kW each. The CAT plant was built in 1993 and contains

two CAT 3612 generators rated at 2,700 kW. The total installed capacity for the Jackfish Facility is 26,750 kW.

The Jackfish Facility is a backup power source that is used during periods of high power peak demand, during hydro plant maintenance shutdowns and if/when hydro power is not available from the Snare and Bluefish hydroelectric facilities.

The fuel system consists of one 1,600,000 L diesel fuel storage tank. The K Plant and CAT Plant both house 4,000 L day tanks. There is also a 90,000 L tank to supply three modular Cummins generators. Fuel resupply is completed by B train tanker truck and deliveries happen only as required.

The three main plants use Jackfish Lake water to cool the generating units; circulating water between the internal plant heat exchangers and back out to Jackfish Lake. Each plant has a separate cooling system with an intake and discharge. The K Plant has two intakes. The CAT Plant system has four pumps within the plant, the EMD Plant has three pumps in the basement of the plant and the K Plant has three pumps in a pump house separate from the plant. There is always water circulating through the closed loop cooling systems to avoid blockages and freezing. When the generators are running additional water is pumped through the systems to cool the engines.

Figure 1: Regional Location of Jackfish Lake Generating Facility

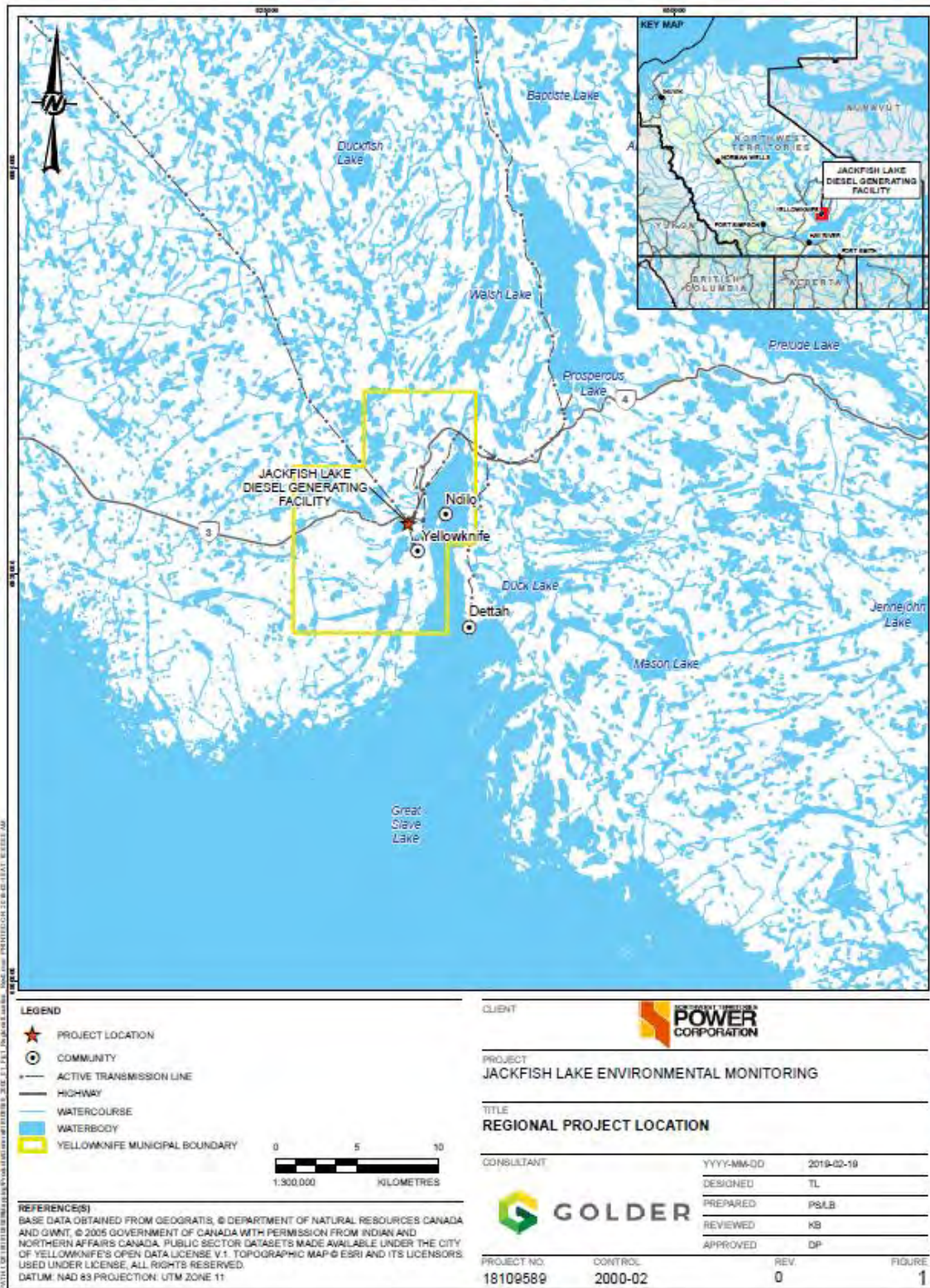




Figure 2: Location of Jackfish Lake Generating Facility

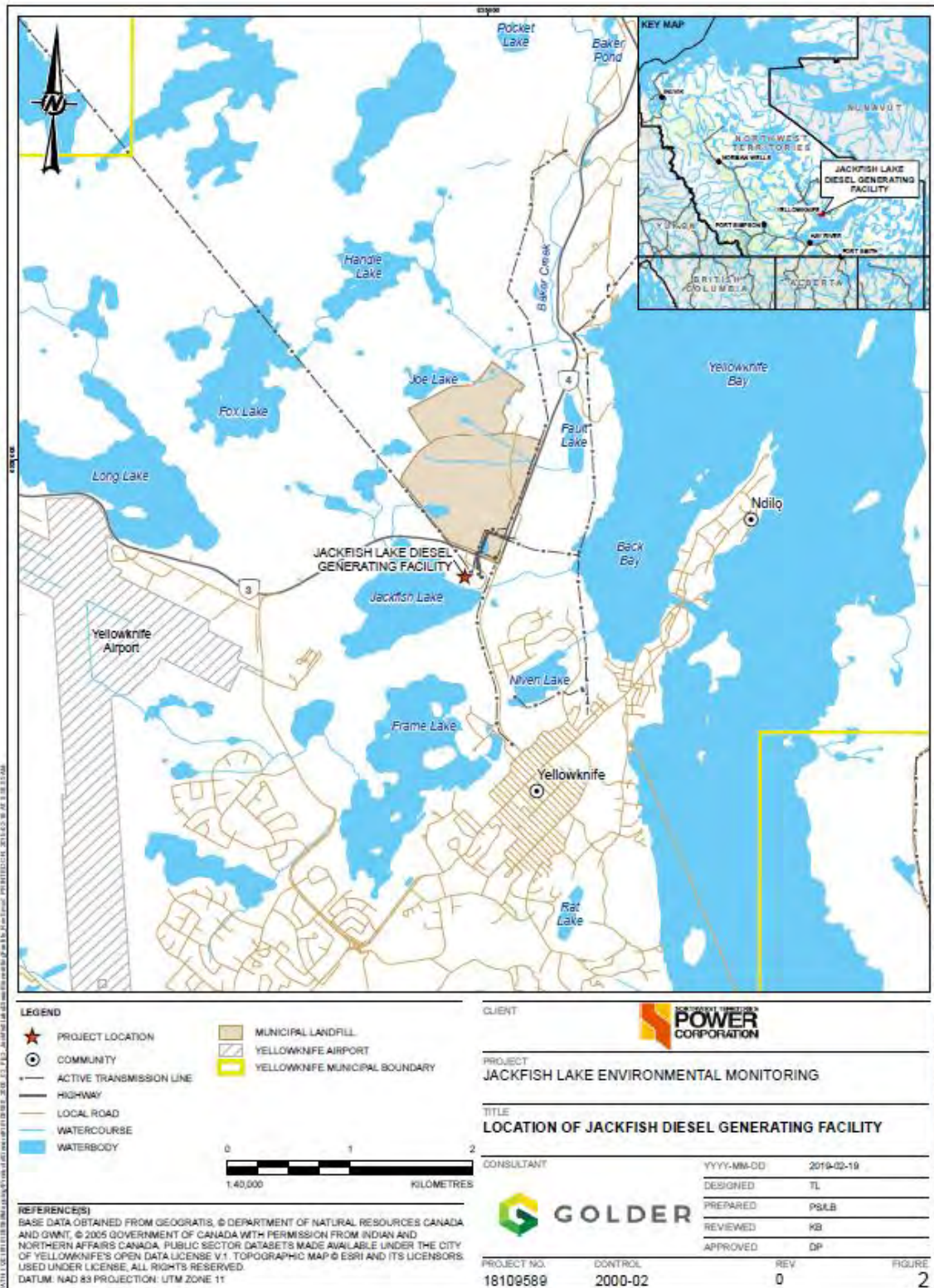


Figure 3: Jackfish Lake Generating Station





## 1.3 CORPORATE CONTACT INFORMATION

NTPC contact information for the Jackfish water licence is as follows:

Matthew Miller  
Senior Environmental Licensing Specialist  
4 Capital Drive  
Hay River, NWT X0E 1G2  
Tel: (867) 874-5314 [mmiller@ntpc.com](mailto:mmiller@ntpc.com)

Colin Steed  
Director, Hydro Division, Hydro Operations  
P. O. Box 2250  
Yellowknife, NWT X1A 2P7  
Tel: 867-669-3347 [CSteed@ntpc.com](mailto:CSteed@ntpc.com)

Doug Prendergast  
Manager, Communications  
4 Capital Drive  
Hay River, NWT X0E 1G2  
Tel: (867) 874-5202 [dprendergast@ntpc.com](mailto:dprendergast@ntpc.com)

## 2 LICENCE RENEWAL APPLICATION ENGAGEMENT

NTPC completed a thorough engagement process leading up the water licence renewal application to gather input from stakeholders on the application package.

The engagement process provided an opportunity for stakeholders to contribute knowledge and solutions to the water licence application and this engagement will continue throughout the renewal process.

Some key tools that were employed in the engagement process are:

- Electronic mail (email)
- Phone conversations and teleconferences
- Providing information about the water licence renewal through the NTPC Facebook page and Twitter,
- Placing paid advertising in the Yell to provide information about matters of public interest
- In-person meetings with representatives of affected organizations, if requested

## 2.1 PARTIES ENGAGED

NTPC has identified a number of aboriginal, municipal, territorial and federal governments and governmental organizations as parties to be engaged as part of the Jackfish water licence renewal. These parties and organizations were verified with the MVLWB on October 2, 2018 and are presented in Table 2-2.

**Table 2-1: Parties Engaged for the Jackfish Water Licence Renewal**

Organization
Akaitcho IMA Implementation Office
City of Yellowknife
Dene Nation
Deninu K'ue First Nation
Fort Resolution Métis Council
K'at'l'odeeche First Nation
Lutsel K'e Dene First Nation - Wildlife, Lands and Environment
North Slave Métis Alliance
Northwest Territory Métis Nation
Salt River First Nation
Smith's Landing First Nation
Tłıchǫ Lands Protection Department
West Point First Nation
Yellowknives Dene First Nation

### 3 ENGAGEMENT RECORD

A summary of all engagement undertaken leading up to the water licence renewal application is presented below. This includes an entry for each engagement, including the following information:

- Date of engagement;
- Name of party or group;
- Format of engagement;
- Individuals attending;
- Issue or topic of discussion;
- Comments received by NTPC; and
- Description of issues that were jointly resolved or which remain outstanding.

An overview of the engagement results is presented in Table 3-1 and a detailed table of all engagement is presented in Table 3-2.

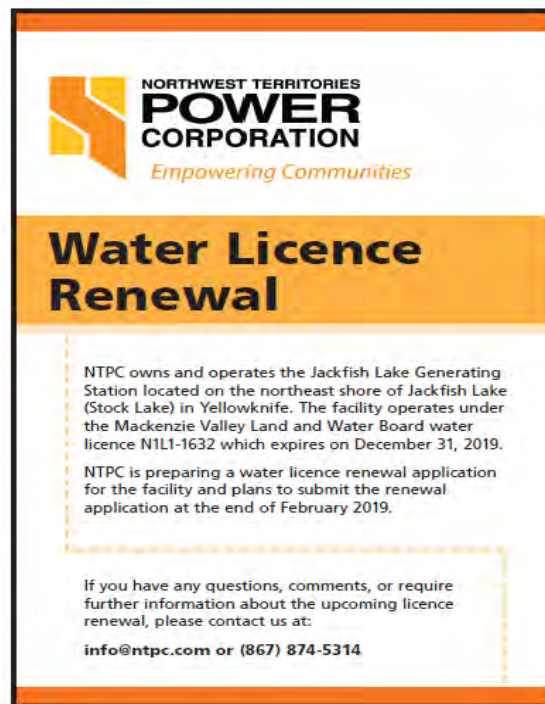
Some of the key milestones in the engagement process for the water licence renewal were:

1. Providing a draft Initial Engagement Letter (Appendix A) and Engagement Plan for the Jackfish Water Licence Renewal including parties to be engaged and process that will be followed throughout the engagement process to the MVLWB for review and comment.
  - a. Draft documents were provided to the MVLWB on October 2, 2018. A phone call occurred between NTPC to discuss the documents and an email with feedback was received by NTPC on October 2, 2018.
2. Email to all stakeholders with notification letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan for review and comment.
  - a. Initial email to all stakeholders with attachments was sent November 9, 2018
  - b. Follow up email including attachments was sent November 21, 2018
3. Follow up phone call to all stakeholders to verify receipt of Engagement Letter and Engagement Plan for the Jackfish Water Licence Renewal.
  - a. All stakeholders were called on January 8 and 9, 2019. Voicemails were left for any stakeholder that did not answer the phone call.
4. Numerous emails and phone calls with all stakeholders as outlined in Table 3-2.
  - a. Throughout January 2019 numerous phone calls and email communications occurred with stakeholders to seek feedback on the application
5. In person meetings with stakeholders who requested meeting.



- a. In person meetings took place with the City of Yellowknife and the North Slave Metis Alliance on January 15, 2019 to gather feedback on the water licence renewal application. Meeting handout and notes included in Appendix B.
6. Water Licence Renewal Ad for public input that was run in the Yellowknifer newspaper Ad and posted on the NTPC Facebook Page and Twitter.
  - a. Ad was run in the Yellowknifer on Wednesday, February 6, 2019 and Friday, February 8, 2019 and posted on social media on February 7, 2019.
  - b. No public feedback from these publications was received.

Figure 4: Jackfish Lake Generating Station Water Licence Renewal Ad



An overview of the engagement results with all stakeholders is presented in Table 3-1 and a detailed outline of all engagement is outlined in Table 3-2.

**Table 3-1: Overview of Engagement Results**

Organization	Contact	Feedback Provided	Details
Akaitcho IMA Implementation Office	Stephanie Poole	Yes	Stephanie verified receipt of notification email and said that she had forwarded it on to appropriate staff within the Akaitcho Dene First Nations and which will respond if need be.
City of Yellowknife	Mike Auge	Yes	Meeting occurred on January 15, 2019. No concerns were raised and both parties committed to identifying any opportunities for collaboration throughout renewal process.
Dene Nation	Trevor Teed	Yes	Trevor informed NTPC to defer to YK Dene which is local band in this case. Dene Nation does not require further engagement.
Deninu Kue First Nation	Louis Balsillie	Yes	During phone call Louis confirmed receipt of email and would follow up with NTPC if he has any questions or concerns.
Fort Resolution Metis Council (Regional Council of Northwest Territory Metis Nation)	Trudy King	Yes	Trudy directed NTPC to forward all information to frmcenvironment@northwestel.net
GNWT - ENR - North Slave Region	Nahum Lee	Yes	Confirmed receipt of notification email, requested to take part in the renewal process through the online review of the renewal application; no further engagement required until submission.
	Andrea Patenaude	Yes	After Phone meeting Andrea stated that "Based on the information provided to... it does not appear that the operation would meet the criteria for requiring an approved Wildlife Management and Monitoring Plan".
Katlodeeche First Nation	Patrick Riley	Yes	After reviewing notification package KFN had no further questions and no further comments. "This license renewal does not affect us at all." KFN does not require further engagement.
Lutselk'e First Nation	Lauren King	No	Sent notification email, 2 follow up to notification emails and phone message but received no response.
North Slave Metis Alliance	Shin, Shiga,	Yes	Meeting occurred on January 15, 2019. No concerns were raised and NTPC committed to keeping NSMA involved in the renewal process.
Northwest Territory Metis Nation	Tim Heron	No	Sent notification email, follow up to notification email and phone message but received no response.
Salt River First Nation	Jeff Fraser	No	Sent notification email, follow up to notification email and phone message but received no response.
Smith Landing First Nation	Becky Kostka,	Yes	After phone meeting and reviewing package Smith Landing had no input on this renewal application.
Tlicho Lands Protection Department	Tyanna Steinwand	Yes	Email from Tyanna stated "Tlicho Government has no comments at this time and we are fine with the engagement plan"
Wek'eezhii Renewable Resources Board	Jody Pellissey	Yes	Email from Jody stated "at this time WRRB has no questions"
West Point First Nation	Misty Ireland	Yes	West Point will review letter and engagement plan and follow up with NTPC if any concerns or questions arise.
Yellowknives Dene First Nation	Eddie Sangris	No	Sent notification email, follow up to notification email, and 2 phone messages. Some email correspondence regarding meeting but despite numerous emails and requests for meeting not meeting took place as no response were received.

**Table 3-2: Detailed Engagement Results**

Date	Item	Parties	Cc'd	Description
2018-Nov-09	Email- to, including Notification Letter of Water Licence Renewal Application for Jackfish and DRAFT Jackfish Engagement Plan	ALL	Gary G, Colin S, Doug P, Eddie S, Tyree M (MVLWB)	Email with letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan
2018-Nov-13	Email- from	Jody Pellissey (WRRB)	lmeinert@wrrb.ca	Receipt of notification email
2018-Nov-21	Email- to, including Notification Letter of Water Licence Renewal Application for Jackfish and DRAFT Jackfish Engagement Plan	ALL	Gary G, Colin S, Doug P, Eddie S, Tyree M (MVLWB)	Email with letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan
2018-Nov-22	Email- from	Nahum Lee (ENR-GNWT)		Receipt of notification email, request to take part in the renewal process through the online review of the renewal application
2018-Dec-13	Email- to	Andrea Patenaude (ENR-GNWT)	Matt M (sent by Golder on behalf of NTPC)	Email regarding Wildlife Management and Monitoring Plan Guidelines and requirement for a WMMP
2019-Jan-08	Email- to, including Notification Letter of Water Licence Renewal Application for Jackfish and DRAFT Jackfish Engagement Plan	Jeff Fraser (Salt River FN)		Email with letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan
2019-Jan-08	Email- to	Andrea Patenaude (ENR-GNWT)	Damian P (Golder)	Email to set up meeting regarding Wildlife Management and Monitoring Plan Guidelines and requirement for a WMMP
2019-Jan-08	Email- to	Stephanie Poole (Akaitcho)		Could not find phone number so sent third email to follow up on letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan
2019-Jan-08	phone call- to- message	Mike Auge (City of YK)		Left message to follow up on notification emails and set up meeting regarding renewal
2019-Jan-08	phone call- to	Trevor Teed (Dene Nation)		Phone call to follow up on notification email. Trevor informed NTPC to defer to YK Dene which is local band in this case. Dene Nation does not require further engagement.
2019-Jan-08	phone call- to	Louis Balsillie (DKFN)		Phone call to follow up on notification email. Louis confirmed receipt of email and will follow up if he has any questions or concerns.
2019-Jan-08	phone call- to	Trudy King (Fort Res Metis Council)		Phone call to follow up on notification email. Provided email to forward letter to <a href="mailto:frmcenvironment@northwestel.net">frmcenvironment@northwestel.net</a>
2019-Jan-08	Email- to, including Notification Letter of Water Licence Renewal Application for Jackfish and DRAFT Jackfish Engagement Plan	<a href="mailto:frmcenvironment@northwestel.net">frmcenvironment@northwestel.net</a>		Email with letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan
2019-Jan-08	phone call- to	Patrick Riley (KFN)		Phone call to follow up on notification email. Resent letter and Engagement Plan. Patrick will follow up if he has any questions.
2019-Jan-08	Email- to, including Notification Letter of Water Licence Renewal Application for Jackfish and DRAFT Jackfish Engagement Plan	Patrick Riley (KFN)		Resent email with letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan
2019-Jan-08	phone call- to	Shin Shiga (NSMA)		Phone call to follow up on notification email. Spoke about setting up a meeting to discuss water licence renewal. NTPC expressed interest in gathering any traditional knowledge that NSMA holds regarding Jackfish Lake as well. Resent letter and Engagement Plan.

Date	Item	Parties	Cc'd	Description
2019-Jan-08	Email- to, including Notification Letter of Water Licence Renewal Application for Jackfish and DRAFT Jackfish Engagement Plan	Shin Shiga (NSMA)	Damian P (Golder)	Resent email with letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan. Requested info for meeting.
2019-Jan-09	Email- from	Shin Shiga (NSMA)	Damian P (Golder), Jess H (NSMA)	email to propose meeting time and introduce Jess, new regulatory manager
2019-Jan-09	Phone call- from	Mike Auge (City of YK)		follow up on phone message to set up meeting
2019-Jan-09	Emails- from	Andrea Patenaude (ENR-GNWT)	Damian P (Golder)	emails to set up meeting
2019-Jan-09	Email- from	Stephanie Poole (Akaitcho)		Stephanie verified receipt of email and said that she had forwarded it on to appropriate staff within the Akaitcho Dene First Nations.
2019-Jan-09	Email- from	Shin Shiga (NSMA)	Damian P (Golder), Jess H (NSMA)	verified meeting details
2019-Jan-09	Phone call- message	Tim Heron (NTMN)		Phone message to follow up on notification email, left contact number and told to contact Matt M with any questions or comments
2019-Jan-09	Phone call- message	Jeff Fraser (Salt River FN)		Phone message to follow up on notification email, left contact number and told to contact Matt M with any questions or comments
2019-Jan-09	Phone call- to	Becky Kostka (Smith Landing FN)		Phone call to follow up on notification email. Matt M provided a brief explanation of the Jackfish Facility and the water licence application. Becky stated that Smith Landing had no input on this renewal application.
2019-Jan-09	Phone call- message	Tyanna Steinwand (Tlicho)		Phone message to follow up on notification email, left contact number and told to contact Matt M with any questions or comments
2019-Jan-09	Phone call- message	Jody Pellissey (WRRB)		Phone message to follow up on notification email, left contact number and told to contact Matt M with any questions or comments
2019-Jan-09	Phone call- to	Misty Ireland (West Point FN)		Phone call to follow up on notification email. Matt M provided a brief explanation of the Jackfish Facility and the water licence application. Misty will review letter and engagement plan and follow up with NTPC if any concerns or questions arise.
2019-Jan-09	Email- from	Patrick Riley (KFN)		Patrick responded to notification email and stated that "KFN has no further questions and no further comments. This license renewal does not affect us at all."
2019-Jan-09	Email- to	Johanne Black, William Lines (YDFN)		Email with letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan and requested to set up meeting with YDFN.
2019-Jan-09	Phone call- message	Johanne Black (YDFN)		Left voicemail to follow on email regarding notification of renewal and to set up meeting.
2019-Jan-10	Email- from	Mike Auge (City of YK)		email to verify meeting details
2019-Jan-11	Email- from	Jody Pellissey (WRRB)	lmeinert@wrrb.ca	Email to follow up on Phone message from Matt M. Jody stated " at this time WRRB has no questions"
2019-Jan-12	Email- from	Tyanna Steinwand (Tlicho)		Email to follow up on Phone message from Matt M. Tyanna stated "Tlicho Government has no comments at this time and we are fine with the engagement plan"



Date	Item	Parties	Cc'd	Description
2019-Jan-15	Meeting	Dave Macmillan, Chris Vaughn, Mike Auge, Renee Hawkes (City of YK), Matt M, Colin Steed (NTPC), Damian Panayi (Golder)		Meeting from 9:30am - 10:30am at Jackfish plant to go over Jackfish WL renewal. Presented handout to all members and provided overview presentation on handout. Discussion regarding WL renewal followed. Action items from meeting; provide Mike with the water quality parameters sampled during the baseline monitoring, let Mike know what year the lake was fished for arctic char stocking, ensure sharing of info between city and NTPC to ensure no efficiency and no duplication. Refer to meeting notes
2019-Jan-15	Meeting	Shin Shiga, Jess Hurtubise (NSMA) , Matt M, Colin Steed (NTPC), Damian Panayi (Golder)		Meeting from 2:30am - 3:30am at Golder Boardroom to go over Jackfish WL renewal. Presented handout to all members and provided overview presentation on handout. Discussion regarding WL renewal followed. NSMA has no concerns at this point and will comment on full application package when it is circulated by MVLWB. Refer to meeting notes
2019-Jan-15		Damian Panayi (Golder)	Shin Shiga (NSMA) , Matt M (NTPC)	Meetings Notes for review
2019-Jan-15	Email- from	Kaitlyn Menard (GNWT)	Damian Panayi (Golder)	Email from Environmental Health Contaminants inquiring on monitoring data for water chemistry data and fish tissue sampling. Damian forwarded email to Matt M at NTPC
2019-Jan-15	Email- to	Kaitlyn Menard (GNWT)	Damian Panayi (Golder)	Follow up information request on monitoring data for water chemistry data and fish tissue sampling.
2019-Jan-16		Shin Shiga (NSMA)	Matt M (NTPC), Damian Panayi (Golder)	Updated meeting notes for review
2019-Jan-18	Meeting	Andrea Patenaude (ENR-GNWT), Matt M (NTPC), Damian P (Golder)		Teleconference from 1:00- 1:30pm to go over Jackfish WL renewal. Provided overview of renewal and discussed Wildlife Management and Monitoring Plan Guidelines and requirement for a WMMP.
2019-Jan-18	Email- from	Andrea Patenaude (ENR-GNWT)	Matt M (NTPC), Damian P (Golder)	Email to follow up on Wildlife Management and Monitoring Plan Guidelines and requirement for a WMMP. "Based on the information provided to me on our call... it does not appear that the operation would meet the criteria for requiring an approved Wildlife Management and Monitoring Plan".
2019-Jan-21	Email- to	Shin Shiga (NSMA)	Damian Panayi (Golder)	Signed meeting notes
2019-Jan-20	Email- to	Mike Auge(City of YK)	Colin Steed (NTPC), Damian Panayi (Golder)	Meeting notes from January 15 Meeting including information on water quality parameters as requested by City of YK
2019-Jan-21	Email- from	Jess Hurtubise (NSMA)	Shin Shiga (NSMA) , Matt M (NTPC), Damian Panayi (Golder)	Signed meeting notes
2019-Jan-21	Email- from	Kaitlyn Menard (GNWT)	Damian Panayi (Golder)	Email from Environmental Health Contaminants inquiring on monitoring data for water chemistry data and fish tissue sampling.
2019-Jan-23	Email- to	Lauren King, Daryl Marlow (LDFN)		Email with letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan

Date	Item	Parties	Cc'd	Description
2019-Jan-23	Email- to	Johanne Black, William Lines (YDFN)		Email with letter regarding the Northwest Territories Power Corporation's water licence renewal application for the Jackfish Lake Generating Station in Yellowknife, NT. Also included the Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan and requested to set up meeting with YDFN.
2019-Jan-23	Phone call- message	Johanne Black (YDFN)		Left voicemail to follow on email regarding notification of renewal and to set up meeting.
2019-Jan-24	Email- from	William Lines (YDFN)	Johanne Black (YDFN), Matt M (NTPC),	Email to follow up on meeting request
2019-Jan-25	Email- to	William Lines (YDFN)	Johanne Black (YDFN), Matt M (NTPC), Damian Panayi (Golder)	Email to follow up on meeting request
2019-Jan-28	Email- to	William Lines (YDFN)	Johanne Black (YDFN), Matt M (NTPC), Damian Panayi (Golder)	Email to follow up on meeting request
2019-Jan-28	Email- from	William Lines (YDFN)	Johanne Black (YDFN), Matt M (NTPC), Damian Panayi (Golder)	Email to follow up on meeting request
2019-Jan-29	Email- to	William Lines (YDFN)	Johanne Black (YDFN), Matt M (NTPC), Damian Panayi (Golder)	Email to follow up on meeting request
2019-Jan-30	Email- to	Kaitlyn Menard (GNWT)	Damian Panayi (Golder)	Follow up information request on monitoring data for water chemistry data and fish tissue sampling.
2019-Jan-31	Email- to	William Lines (YDFN)	Johanne Black (YDFN), Matt M (NTPC), Damian Panayi (Golder)	Email to follow up on meeting request
2019-Feb-06	Print Ad	Yellowknifer Newspaper		Print ad run in the Yellowknifer to notify public that NTPC will be applying to renew the water licence for the Jackfish Lake Generating Facility. Contact information was provided to provide feedback, ask questions etc.
2019-Feb-07	Facebook Post	NTPC Corporate Facebook page		Public Facebook post notify public that NTPC will be applying to renew the water licence for the Jackfish Lake Generating Facility. Contact information was provided to provide feedback, ask questions etc.
2019-Feb-07	Facebook Post	NTPC Corporate Facebook page		Public Facebook post notify public that NTPC will be applying to renew the water licence for the Jackfish Lake Generating Facility. Contact information was provided to provide feedback, ask questions etc.
2019-Feb-08	Print Ad	Yellowknifer Newspaper		Print ad run in the Yellowknifer to notify public that NTPC will be applying to renew the water licence for the Jackfish Lake Generating Facility. Contact information was provided to provide feedback, ask questions etc.

**APPENDIX A**

**NOTIFICATION LETTER TO ALL STAKEHOLDERS**

November, 2018

Mackenzie Valley Land and Water Board  
Distribution List

**Notification of Water Licence Renewal Application for the Jackfish Lake  
Generating Station in Yellowknife, NT**

Dear Sir/Madam,

The Northwest Territories Power Corporation (NTPC) owns and operates the Jackfish Lake Generating Station located on the northeast shore of Jackfish Lake (Stock Lake) in Yellowknife, Northwest Territories. The facility operates under the Mackenzie Valley Land and Water Board (MVLWB) water licence N1L1-1632. Water licence N1L1-1632 expires on December 31, 2019. NTPC is preparing a water licence renewal application for the facility, allowing the Jackfish facility to continue to operate under a new licence after the current licence expires.

The Jackfish facility is a critical source of backup power with diesel generators that contribute generation to the North Slave electrical system, including the City of Yellowknife, Ndilo and Dettah, when required. It is used during periods of peak power demand, during hydro maintenance shutdowns or when hydro is not available on loss of the transmission line to the Snare Hydro. There are three distinct generation plants within the Jackfish facility; the CAT plant (built in 1993), the EMD plant (built in 1974) and the K plant (built in 1969). Each plant has a cooling system for the generators that utilizes water from Jackfish Lake.

Over the lifespan of the current licence NTPC has worked closely with the MVLWB and other regulators to ensure that the Jackfish facility has met the requirements and conditions within the current licence and other applicable legislation.

NTPC plans to submit the water licence renewal application in February 2019. The application will then be subject to the standard review process undertaken by the MVLWB, and your organization will have the opportunity to comment on the full application at that time. Note that our application is required to replace an expiring water licence; we are not changing how we operate the Jackfish facility.

The *Draft Jackfish Lake Generating Station Water Licence Renewal Engagement Plan* has been included as an attachment to this letter. This document describes how NTPC intends to engage with your organization before, during and after the licence renewal



November, 2018

process. Please confirm that your organization wishes to be engaged, and if so, that the *Engagement Plan* is acceptable and correct. The Engagement Triggers and contact information in particular should be reviewed.

If you have any questions, comments, or require further clarification about either the upcoming licence renewal or the *Engagement Plan*, please contact me by email at [mmiller@ntpc.com](mailto:mmiller@ntpc.com) or by phone at (867) 874-5314. Thank you for your time.

Sincerely,



Matthew Miller, M.Sc., P.Eng.  
Senior Environmental Licensing Specialist  
Northwest Territories Power Corporation

**APPENDIX B**

**MEETING HANDOUT AND MEETING NOTES**



# Jackfish Lake Generating Facility Water Licence Renewal

INFORMATION PACKAGE

January, 2019

January, 2019

## **1. OVERVIEW**

The Northwest Territories Power Corporation (NTPC) owns and operates the Jackfish Lake Generating Facility (Facility), located on the northeast shore of Jackfish Lake in Yellowknife, Northwest Territories. The Facility contributes power to the North Slave electrical system when required. It consists of three separate plants: the CAT plant, E.M.D. plant, and K plant. Each plant has an engine cooling system that uses water from Jackfish Lake.

The cooling systems for each plant and their use of water from Jackfish Lake are regulated under Water Licence N1L1 1632, which is held with the Mackenzie Valley Land and Water Board (MVLWB). Water Licence N1L1-1632 was issued in 1995 and expires on December 31, 2019. In order to maintain compliance with the Mackenzie Valley Resource Management Act, the Waters Act and other environmental legislation NTPC will submit an application to renew the water licence for the operation of the Facility's cooling systems.

## **2. FACILITY**

The Facility is located on the north end of Yellowknife on the north shore of Jackfish Lake (real name Stock Lake) and is surrounded by chain-link fence. The arrangement of buildings from east to west along the south side of the property is as follows: the office building, CAT Plant, EMD Plant, K Plant (the three plants are joined by covered walkways), the warehouse, and the line shop. There is a water pump house located south of the K-Plant, a fuel pump house north of the K-Plant, and a storage shed northeast of the line shop. On the north side of the property from east to west sits the substation, the Ruston Plant, a drum storage berm, the tank farm, three modular gensets with a fuel storage tank and control building. Pole storage is located outside the fence north of the Ruston Plant.

The K Plant built in 1969 and extended in 1988 contains two Mirrlees KV-16 gen-sets rated at 5000 kW each and only one is in service at this time. The EMD Plant built in 1974 and extended in 1988 contains four EMD's; two E-series gen-sets rated at 2500 kW each and two F-series gen-sets rated at 2850 kW each. The CAT Plant built in 1993 contains two CAT 3612 gen-sets rated 2700 kW.



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**Figure 1: Jackfish Lake Generating Station**

Total installed capacity for the Facility is 26,750 kW. The Facility is a power source that is used during periods of high power demand, during maintenance shutdowns and when hydro is not available on loss of the transmission line to the Snare Hydro.

The fuel system consists of one 1,600,000L diesel fuel storage tank. The K-Plant and CAT Plant both house 4000L day tanks. There is also a 90,000 L tank to supply three modular Cummins gensets. Fuel resupply is completed as required by B train tanker trucks.

The three main plants use water from Jackfish Lake which is circulated between the internal plant heat exchangers and discharged back out to Jackfish Lake.

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Each plant has a separate cooling system for the generators with their own intakes and discharges (the K Plant has two intakes). The CAT plant system has four pumps within the plant, the EMD plant has 3 pumps in the basement of the plant and the K-Plant has 3 pumps in a pump house separate from the plant. 1-2 pumps are constantly circulating water through the cooling systems to avoid blockages and freezing. When the generators are running more pumps come on and additional water flows through the systems.

### **3. BASELINE MONITORING**

The current Water Licence N1L1-1662 does not have any requirements for environmental monitoring for Jackfish Lake. Water temperature monitoring and water quality sampling are not currently conducted at Jackfish Lake for this reason. Throughout 2018 NTPC initiated a monitoring program to collect environmental data in preparation for the new water licence application and to support subsequent monitoring under the new licence.

The overall objective of the Jackfish Lake monitoring program was to collect environmental monitoring data to develop a baseline dataset for the environmental conditions within the lake and begin to analyze the potential effects of cooling water discharges on the Jackfish Lake. The monitoring components included:

- Water temperature and water level
- Water quality
- Phytoplankton
- Benthic invertebrate community and supporting sediment quality
- Fish (fish community and fish tissue chemistry)

Temperature and water level loggers were installed in March 2018. Five samplings events were completed in 2018. No algal blooms were observed in Jackfish Lake in 2018. The findings of the one-year monitoring program will be summarized in a report completed in the spring of 2019.

NTPC has also partnered with Queen's University on a research project that aims to understand the cause(s) of the recent algal blooms at Jackfish Lake. They will be using a paleolimnological approach to provide long-term environmental context to recent algal blooms in Jackfish Lake. This research will help contribute to the environmental understanding of algal blooms in Jackfish Lake. Any results that are applicable will be used to support the water licence application process.

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### **3. SUBMISSION TIMELINE**

October 2018

Discuss and confirm application requirements with MVLWB staff.

November, 2018

Complete engagement plan and send out initial engagement letter.

January, 2019

Follow up on engagement plan and letter and meet with key stakeholders

February 18, 2019

Submit full water licence application to MVLWB.

### **4. RENEWAL APPLICATION PACKAGE**

Documents required in the water licence application package include:

- Completed Water Licence application form and application fee
- Land lease or ownership documents
- General Site Diagrams and GIS Data
- Engagement Plan
- Engagement Log
- Summary of Environmental Impacts
- Spill Contingency Plan
- Waste Management Plan
- Public Safety Plan
- Conceptual Restoration and Abandonment Plan- level
- Operations and Maintenance Manual
- Proposed draft water licence
- Conceptual Aquatic Effects Monitoring Program Design Plan
- Baseline Environmental Monitoring Report

This list will be updated based on regulatory requirements specific to this project.

15 January 2019  
09:30 h.

NTPC Jackfish

Engagement meeting with City of Yellowknife

NTPC = Matt Miller

Folder - Damien Pancey

City of Yellowknife

- David McMillan
- Mike Auge
- Chris Vaughn
- Rene Hawks - Does most of City water Licence work

Handout of Jackfish WL Renewal Information Package

- Matt:
- Jackfish is not primary power
  - WL required for lake water for cooling. Newer generators don't require water for cooling.
  - Reviewed Jackfish history and infrastructure.
  - Pumps run all the time, regardless of whether gen sets are running.
  - Baseline studies were initiated in 2018. There was little available data.
  - Monitored fish, water temp, water level, benthos.
  - Report will be circulated with the WL.

- Mike
- ~~what~~ what parameters were measured?
  - Matt - Full suite. Can pass this on. Five sessions

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- Matt
- Algal blooms will be a concern. Probably contributed by City and Jackfish
  - Testing areas at the inlets and outlets, plus 3 in basin. Five sites total.
  - Would be helpful to know if City did anything to stem inflow from direction of landfill. Haven't seen much flow from that direction in years. (through culvert under Hwy 3 to west of Jackfish lake)

- Mike --
- Engagement plan looks good. No comments or changes required.
  - City has been asked to do additional monitoring in Jackfish Lake. Hoping to see NTRC etc contribute to this monitoring.
  - Don't need to duplicate efforts.
  - City was asked to add phosphorus testing to their Jackfish monitoring station.

- Matt
- Lake was assessed for Char stocking in the 1980s
  - Could work together with the City on an algal bloom response plan.
  - Let us know if there is anything City wants to see in the WL.
  - Would be helpful if City responds to ~~the~~ MUVW23 review when the application is submitted.

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Close at 1020 hr



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## Jackfish Meeting

Engagement with NSMA

1430 to 1500h

NSMA - Shin Shingo  
Jessica Hurtubise

Golder - Damien Parcey

NTPC - Colin Steed  
Matt Miller

Reviewed the Information Package. - Matt &amp; Colin.

- Each Plant has separate cooling system.
- Jackfish is normally backup only. During winter used for peaks only (ie. evenings in Yellowknife)

Shin - Is there a DFO Authorization?

Matt - No. Jackfish uses water only.

Shin - Any changes to the Plants? Planning to use more water?

Colin - No. Upgrades are air cooled rather than water cooled.

So expecting to use less water. NTPC looking at expanding from hydro, use less diesel.

Jessica - NTPC is monitoring?

Matt - Documenting current conditions in the lake. Water quality, five sampling periods.

Shin - Wasnt City required to monitor water flows in that area?

Colin - Havent seen much inflow in recent years.

Matt - Yes, City is monitoring the inflow to Jackfish Lake.

Matt - Student from Queens is looking at lakebed sediment cores to describe this lake history.

Shin - Received Engagement Plan, but not in detail.  
- Can provide comments during public review period.

Matt - Plan to submit February 18<sup>th</sup>, 2019, to MVLWB

Shin - Confirm the only addition will be heat. No other effluent.

Matt - Confirmed.

Matt - Anyone in NSMA who is familiar with the pre-developed state of the lake?

Shin - Will ask around.