



Box 32, Wekweètì, NT X0E 1W0
Tel: 867-713-2500 Fax: 867-713-2502

#1-4905 48th Street, Yellowknife, NT X1A 3S3
Tel: 867-765-4592 Fax: 867-765-4593
www.wlwb.ca

February 28, 2025

File: W2023L4-0001

Richard Johnstone
Northwest Territories Power Corporation
4 Capital Drive,
Hay River, NT, X0E 1G2

Sent by email

Dear Richard,

Re: Snare River Septic Fields Special Study Design – Snare Hydroelectric Facility – Snare River, NT

The Wek'èezhì Land and Water Board met on February 26, 2025, and considered the Snare River Septic Fields Special Study Design (Study)¹ submitted by Northwest Territories Power Corporation (NTPC) on November 26, 2024, as agreed in the renewal proceeding for the Water Licence (Licence) W2023L4-0001².

As explained in the attached Reasons for Decision, the Board has decided to approve the Study. The Board included additional direction relating to engagement and specific information to be included in the Septic Fields Special Study Report.

Please direct questions or concerns regarding this letter to Janelle Vandenbrink by [email](mailto:).

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Jocelyn Zoe", is written over a light blue oval background.

Jocelyn Zoe
Acting Chair, Wek'èezhì Land and Water Board

¹ See WLWB Online Registry (www.wlwb.ca) for [Snare Hydro - Septic Fields Study - Nov 26 24](#)

² See WLWB Online Registry for [Snare Hydro - Issuance Letter and Licence - May 14 24](#)

Bcc'd to: NTPC Distribution List
Scott Stewart– Superintendent, Land and Water, GNWT-ECC
Rick Walbourne – Director, Regulatory and Permitting, GNWT-ECC

Attached: Reasons for Decision



PO Box 32, Wekweètì NT X0E 1W0
Tel: 867-713-2500 Fax: 867-713-2502

#1-4905 48th Street, Yellowknife NT X1A 3S3
Tel: 867-765-4592 Fax: 867-765-4593
www.wlwb.ca

Reasons for Decision

Snare River Septic Fields Special Study Design – Version 1.0	
File Number	W2023L4-0001
Licensee	Northwest Territories Power Corporation (NTPC)
Location	Snare River, NT
Activity	Power Undertaking
Date of Decision	February 26, 2025

Decision from the Wek'èezhì Land and Water Board Meeting of February 26, 2025

1.0 Decision

On February 26, 2025, the Wek'èezhì Land and Water Board (WLWB or the Board) met and considered the Northwest Territories Power Corporation (NTPC)'s Snare River Septic Fields Special Study Design (the Study)³ submitted in accordance with Part F, Condition 16, and Schedule 5, Condition 2 of Water Licence W2023L4-0001 (the Licence).⁴ After reviewing the submission and the evidence gathered during the public review, the Board has made the following decisions:

- 1) To approve the Snare River Septic Fields Special Study Design;
- 2) To direct NTPC to engage with the Tłı̄chǫ Government on timing of engagement related to the Report, and whether the engagement triggers in the Engagement Plan require updating;

³ See WLWB Online Review System (<https://new.onlinereviewssystem.ca/>) for [W2023L4-0001 - Snare Hydro - Septic Fields Study - Dec 4 24](#)

⁴ See WLWB Online Registry (www.wlwb.ca) for [W2023L4-0001 - Snare Hydro - Water Licence - May 16 24](#)

- 3) To direct NTPC to include in the Report an interpretation of the surface water quality monitoring results compared to the guidelines used in the Study;
- 4) To require NTPC to include quantitative statistical analyses for the water quality results in the Report; and
- 5) To require NTPC to implement the commitments as detailed in Section 3.5 of these Reasons for Decision.

2.0 Background

In 2023, Northwest Territories Power Corporation (NTPC) submitted an Application to renew its Type A Water Licence for the use of water for the Snare Hydroelectric Facility (the Project) located on the Snare River. During the Technical Session for the renewal proceeding NTPC was asked if there was a potential for direct or indirect deposit of waste from the septic fields used to treat wastewater from camps at Snare Rapids and Snare Forks.⁵ NTPC indicated that there has been no evidence to suggest the septic fields are not working properly; however, in response to an Information Request, NTPC proposed to undertake a special study to verify that the septic fields are not depositing waste either directly or indirectly into the receiving environment. The Licence was updated to include requirements for a Septic Fields Special Study (i.e., Part F, Condition 16 and Schedule 5, Condition 3) and Report (i.e., Part F, Condition 17 and Schedule 5, Condition 3) for Board approval. While the Study provides the details of how the data will be collected to inform whether the septic fields are depositing waste into the receiving environment, the Report is to include the results of the Study, including an evaluation of whether a release of effluent has occurred, and recommendations for next steps, if necessary. The Report is to be submitted within 90 days following completion of the Study as per Part F, Condition 17.

The Study was required to be submitted to the Board within 90 days of issuance of the Licence. On July 8, 2024, NTPC requested an extension to the submission of the Study until November 30, 2024 due to staffing constraints.⁶ On July 31, 2024, the Board granted NTPC's extension request and revised the submission deadline for the Study to November 30, 2024.⁷

On November 26, 2024, NTPC submitted the Study to the Board for approval.⁸ The Study was distributed for public review on December 4, 2024, inviting reviewers to provide comments and recommendations on the Study.⁹ Comments were received by January 15, 2025, from the Tłıchǫ Government (TG), the Government of the Northwest Territories Department of Environment and Climate Change (GNWT-ECC), and Environment and Climate Change Canada (ECCC). Fisheries and Oceans Canada (DFO) indicated that they had reviewed the Study and had no comments. Board staff also submitted comments and questions for the purposes of clarification. Proponent responses were received on January 21, 2025. Reviewer comments/recommendations and Proponent responses are available on the Online Review System.¹⁰

⁵ See WLWB Online Registry for [Snare Hydro - WL Renewal - Technical Session - Transcript - Sep 26 23](#)

⁶ See the WLWB Online Registry for [Snare Hydro - Septic Field Study - Extension Request - Jul 8 24](#)

⁷ See the WLWB Online Registry for [Snare Hydro - Septic Field Study - Extension Request - Board Decision - Jul 31 24](#)

⁸ See the WLWB Online Registry for [Snare Hydro - Septic Fields Study - Nov 26 24](#)

⁹ See the WLWB Online Review System for [Snare Hydro - Septic Fields Study - Dec 4 24](#)

¹⁰ See the Online Review System for [W2023L4-0001 - Snare Hydro - Septic Fields Study - Public Review - Jan 22 25](#)

3.0 Reasons for Decision

The Study was checked for conformity to Part F, Condition 16 and Schedule 5, Condition 2 of the Licence. In consideration of the Study, reviewer comments, and proponent responses received during the public review, the Board has decided to approve the Study with direction on the commitments and updates for the Report described in section [3.5](#) below.

➤ ***Decision #1: The Board has decided to approve the Snare River Septic Fields Special Study Design***

The reasons for approval are:

- The Board is of the opinion that the Study satisfies the conditions set out in the Licence;
- NTPC provided adequate clarifications to comments from reviewers; and
- The issues raised through the public review of the Study have been addressed through proponent responses or can be addressed in the Report or through future engagement, as discussed in sections below.

3.1 Engagement and Traditional Knowledge

During the public review, the Tłı̨ch̨ Government asked NTPC if the Study would include any Traditional Knowledge component to help understand the uses of the Snare River and equally assess the potential effects on uses of the Snare River (TG comment 1). In response, NTPC referred to a Traditional Knowledge study being conducted by the Tłı̨ch̨ Government on the traditional uses of the Snare River and impacts from hydroelectric development. NTPC proposed that the Tłı̨ch̨ Government “incorporate this issue into the Traditional Knowledge study, and NTPC will incorporate the results into the report of the Snare River Septic Fields Special Study.” The Board notes that Part B, Conditions 3 of NTPC’s Licence requires the following: “In conducting its activities under this Licence, the Licensee shall make every reasonable effort to consider and incorporate any scientific information and Traditional Knowledge that is made available to the Licensee.” Further, Part B, Condition 4 requires that “in each submission required by this Licence or by any directive from the Board, the Licensee shall identify all recommendations based on Traditional Knowledge received, describe how the recommendations were incorporated into the submission, and provide justification for any recommendation not adopted.” Therefore, NTPC is required to consider and incorporate Traditional Knowledge in submissions to the Board as appropriate. The Board notes that NTPC has committed to include results from the Tłı̨ch̨ Government’s report, and therefore this has been included as a commitment in Section [3.5](#) below.

The Tłı̨ch̨ Government also asked NTPC if they had a plan for engagement on how the outcomes of the Study would be discussed with stakeholders, and recommended NTPC carry out such engagement prior to the regulatory review window for the Report (TG comment 3). Based on NTPC’s estimated reporting schedule found in Table 4, the Study would be carried out between February and October 2025, the Report would be submitted around February 2026, and review of the Report would take place around April to June 2026. NTPC responded that it held a recent engagement session on October 23, 2024, and committed to continue engaging with stakeholders.

Given the Tłıchǫ Government specifically recommended engagement be carried out on the Report, the Board has decided to direct NTPC to communicate directly with the Tłıchǫ Government to determine when specifically it would like to be engaged on the results. This may have implications for the engagement triggers in the Engagement Plan, and therefore, NTPC is to consider whether an update to the Engagement Plan would also be necessary.

- ***Decision #2: NTPC is to engage with the Tłıchǫ Government on timing of engagement related to the Report, and whether the engagement triggers would require updating in the Engagement Plan.***

3.2 Surface Water Quality Monitoring

NTPC has proposed surface water quality monitoring in the Snare River, at stations downstream of potential septic tank effluent from the septic systems at Snare Rapids and Snare Forks, as well as at one station upstream of each septic system. Sampling will be conducted twice in 2025, corresponding with low flow conditions in the Snare River, and will include field measurements including water depth, temperature, dissolved oxygen, specific conductivity, and pH. The samples will be submitted for laboratory testing for a suite of parameters potentially associated with septic effluent, including physical and conventional parameters, major ions, nutrients, and bacteriological parameters. There were several comments/recommendations related to water quality monitoring during the public review from Parties.

ECCC submitted two comments related to surface water quality monitoring, including questions on which water quality guidelines will be used to assess each parameter of concern. ECCC commented that while the Study includes several guidelines, a table summarizing the specific guidelines that will be used for each parameter of concern was not included. ECCC recommended that NTPC “provide a table summarizing the specific guidelines that will be used in analysis of parameters of potential concern” (ECCC comment 1). In response, NTPC indicated that they will use all relevant guidelines from each source rather than selecting one for each parameter. NTPC confirmed that the final report will include a table of the numerical values of all guidelines used in the comparison. The Board notes that in Section 6 of the Study, NTPC indicated that the Report would include “an interpretation of the results from the Septic Fields Special Study.” For further clarity, the Board requires that the Report include an interpretation of the results in comparison to the guidelines.

- ***Decision #3: NTPC is to include in the Report an interpretation of the surface water quality monitoring results compared to the guidelines used in the Study.***

ECCC’s second comment related to the analysis of surface water quality monitoring. ECCC commented that the proposed surface water quality analysis only includes a qualitative spatial comparison analysis and lacks “quantitative statistical analysis” (ECCC comment 2). ECCC recommended that NTPC include a quantitative analysis of surface water quality monitoring results. In response, NTPC outlined both qualitative and quantitative analyses that are described in the Study. NTPC also commented that the

complexity of the analyses in the Study is scaled to relatively low potential impacts. The Board notes that NTPC included quantitative and qualitative analyses in the Study. Quantitative analysis of surface water quality is outlined in Section 5.1.2 of the Study, where concentrations of parameters listed in Table 3 will be recorded and compared to relevant guidelines. Given that a small number of samples are to be collected during the Study, it is unclear if the analyses will be statistically valid; however, NTPC could include a caveat with the statistical analyses denoting this. Therefore, the Board requires NTPC to include quantitative statistical analysis for the water quality results in the Report. The statistical analysis would be in addition to the other quantitative analyses already proposed in the Study. Given the Report is for approval, reviewers will have an opportunity to comment on the statistical analyses included and the validity of those analyses.

- ***Decision #4: NTPC is to include quantitative statistical analyses for the water quality results in the Report.***

In the Study, NTPC proposed spot or profile measurements using a multi-probe tool to obtain field measurements for particular parameters at incremental depths when the water at upstream stations is deeper than 5 metres. GNWT-ECC commented that while spot or profile measurements are proposed for upstream stations depending on water depth, only spot field measurements are proposed for downstream stations. GNWT-ECC recommended that NTPC clarify why profile field measurements are not included for downstream stations (GNWT-ECC comment 4). NTPC explained that there is a low potential for vertical gradients downstream due to mixing and there are safety considerations for the field crew downstream. The Board is of the opinion that NTPC's rationale for these sampling methods is locally appropriate and considers the issue adequately addressed.

3.3 Water Flow Measurements

NTPC described significant seasonal fluctuation in the Snare River's flow, and proposed sampling during periods of low flow. GNWT-ECC commented that the hydrographs provided in Figure 4 show variable flow regimes between 2020 and 2023 and therefore it is unclear how low flow periods would be determined (GNWT-ECC comment 6). GNWT-ECC recommended that the low flow periods be determined based on measurements collected upstream of the dam (GNWT-ECC comment 6). GNWT-ECC also recommended that surface water quality sampling include flow measurements at all stations in Snare Rapids and Snare Forks, if safe to do so (GNWT-ECC comment 7). NTPC indicated that flows are measured continually at eight locations between Snare Rapids and Snare Forks as SNP stations (response to GNWT-ECC comment 7), and that low flow periods correspond with the lowest electrical demand in the summer (response to GNWT-ECC comment 6). NTPC explained their rationale for not collecting flow measurements upstream is because: it would require the establishment of a remote monitoring station far from the facility; it would not be predictive of flows at the sampling station due to multiple inflows at upstream reservoirs; and because continual flow measurements between the two locations are already being collected. Given NTPC collects flow data along the Snare River and can use that data to determine the low flow periods, the Board considers these comments from GNWT-ECC addressed.

3.4 Contingency Planning

The Tłıchq Government asked if NTPC was considering the potential effects and any contingency plans in the case of septic system failures (TG comment 2). Board staff also asked about potential septic system issues and inquired if groundwater quality monitoring would be included in follow-up response to septic system failure (WLWB comment 3). NTPC responded that spill response procedures and the scenario of a septic system failure are contained in the approved Spill Contingency Plan. NTPC further advised that the findings of the Study would inform the most appropriate responses to septic system failure. The Board notes Section 5.0 in the approved Spill Contingency Plan¹¹ details response actions to unauthorized discharges, including sewage releases. Given the unauthorized release of sewage is addressed in the Spill Contingency Plan and NTPC has proposed follow-up actions if the septic system is not working as it should, the Board has no additional direction at this time.

3.5 Other Commitments

In response to comments during the public review, NTPC provided additional information and included commitments related to the field program and the Report that the Board is of the opinion would be helpful to reviewers:

- Include results from the Tłıchq Government's Traditional Knowledge study in the Report, at the discretion of the Tłıchq Government;
 - Illustrate on a map the locations of groundwater monitoring ports that have been installed and monitored in the Report (response to GNWT-ECC comment 2);
 - In the Report, include photos taken during the field program and available figures that accurately reflect the existing septic systems (response to GNWT-ECC comment 3);
 - During the field program, re-calibrate water quality monitoring equipment at the beginning of each day when field days are not consecutive, and if there was a drift observed at the end-of-day check on the previous field day. For samples submitted for lab analysis, request the lab to take a temperature reading upon sample arrival and record the temperature on the Chain of Custody form (response to GNWT-ECC comment 8); and
 - Notify the Board if any delays are anticipated in implementation of the Study (response to WLWB comment 2).
- ***Decision #5: NTPC is to implement the commitments as detailed in Section 3.5 of this Reasons for Decision as appropriate.***

3.6 Other Comments

Other comments submitted during the public review are not discussed in this Reasons for Decision because in the Board's view they were identified as not requiring a response. These comments include DFO comment 1, GNWT-ECC comments 1 and 5; ECCC comment 3; and WLWB comments 1 and 2.

¹¹ See the WLWB Online Registry for [Snare Hydro - Spill Contingency Plan - Version 6 - Jul 10 23](#)
W2023L4-0001 – NTPC – Snare River Septic Fields Special Study Design

SIGNATURE



Jocelyn Zoe, Acting Chair
Wek'èezhìi Land and Water Board

February 26, 2025

Date