Review Comment Table

Board:	MVLWB
Review Item:	Bluefish Power Generation Facility - Type A Water Licence Application - MV2020L4-0005
File(s):	MV2020L4-0005
Proponent:	Northwest Territories Power Corporation
Document(s):	Cover Letter (198.31 KB) Water Licence Application Form (473.68 KB) Environmental Studies Summary and Screening - Level Environmental Assessment (4.67 MB) Abandonment and Restoration Plan (2 MB) Duncan Dam - GIS Data (1.91 KB) Emergency Preparedness Plan (3.48 MB) Engagement Log - Minutes (3.16 KB) Figures (6.53 MB) Bluefish Dam - GIS Data (1.74 KB) Hydro-electric Development Questionnaire (260.84 KB) Land Lease Information (1.34 MB) Public Safety Plan (2.19 MB) Spill Contingency Plan (4.27 MB) Waste Management Plan (5.3 MB) Operations Maintenance and Surveillance Manual V1 (5.98 MB) Operations Maintenance and Surveillance Manual V2 (30.1 MB) Engagement Plan (2 MB) Engagement Log (2 MB) DRAFT Workplan - V.1 (145 KB) Dam Safety Review (40.84 MB)
Item For Review Distributed On:	July 24 at 09:07 Distribution List
Reviewer Comments Due By:	Aug 25, 2020
Proponent Responses Due By:	Sep 3, 2020
Item Description:	Northwest Territories Power Corporation (NTPC) submitted a complete application for a type A water licence (licence). The purpose of this Application is for the continued operation of the Bluefish Hydro-electric facility. Using the Online Review System (ORS), reviewers are invited to submit comments and recommendations on the documents linked below by the

	review comment deadline specified. Reviewers may also wish to consider providing an overarching recommendation regarding whether the Board should approve the submission, to provide context for the comments and recommendations and assist the Board with its decision. Notices of intent to file a claim for water compensation must also be submitted by the review comment deadline. If reviewers seek clarification on the submission, they are encouraged to correspond directly with the Applicant prior to submitting comments and recommendations. Under the Preliminary Screening Requirement Regulations, the Board must conduct a preliminary screening for a proposed development, unless it is exempt from preliminary screening in accordance with the Exemption List Regulations. Reviewers are encouraged to provide comments and recommendations (e.g., on impacts and mitigation measures) to assist with the Board's preliminary screening determination. Comments on the possible exemption from preliminary screening are to be submitted by email to the staff identified below by August 4, 2020. A draft work plan for this Application has been developed by Board staff. Board staff are requesting that comments on the draft work plan be submitted by email to the staff identified below by August 4, 2020. Please be advised that comments made by reviewers regarding impacts of this project to wildlife and wildlife habitat in this preliminary screening will inform the GNWT Minister of Environment and Natural Resources' determination regarding whether a Wildlife Management and Monitoring Plan will be required for this project as per section 95 of the Wildlife Act. All documents that have been uploaded to this review are also available on our public Registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.
Contact Information:	Chris Hotson 8677667459 Jen Potten 867-766-7468 Katherine Harris Sean Joseph Tyree Mullaney 867-766-7464

Comment Summary

Environment and Climate Change Canada: Abigayle Blackmore				
ID	**Topic**	**Reviewer Comment/Recommendation**	**Proponent Response**	**Board Staff Response**

2	General File	**Comment** (doc) ECCC Cover Letter **Recommendation**		
1	Spill Contingency Plan, Section 8, Training Programs	**Comment** Regarding the Spill Contingency Plan, under section 8, training programs, the proponent indicates. A mock spill exercise may be performed to familiarize on-site spill responders with the equipment available and the steps to take during typical spills situations that may occur at the Site; Under the environmental emergency plan (E2 plan) in the Environmental Emergency Regulations (E2 Regulations, section 7) , a simulation exercises in relation to each E2 plan be conducted each year in respect of one substance from each of the hazard categories presented in the spill contingency plan and a full scale simulation be performed every five years. This is not mandatory because E2 Regulations only apply to fixed facilities. A facility in the Regulations is defined as a property on which one or more fixed installations are located and where a substance is present. A hydro dam may not fit that description. **Recommendation** Given that NTPC are not obligated to perform a simulation exercise, it is still encourage to provide more information on the frequency of these exercises as it will ensure the response personnel are	**Sep 3:** Spill Response Training is provided to all NTPC Staff as described in Section 8. NTPC acknowledges that spill exercises can be beneficial teaching tools. Simulation exercises will be performed when time and resources permit.	

		adequately trained in the event of potential accidents and malfunctions.		
Fisheries and Oceans Canada: Neil Fisher				
ID	**Topic**	**Reviewer Comment/Recommendation**	**Proponent Response**	**Board Staff Response**
1	NTPC-Bluefish - Type A Water Licence Application - MV2020L4-0005 (MVLBM)	**Comment** The water licence application has been reviewed to determine whether it is likely to result in the death of fish by means other than fishing and the harmful alteration, disruption or destruction (HADD) of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the Fisheries Act; and, effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the Species at Risk Act. https://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html **Recommendation** NTPC is responsible to avoid causing the death of fish and the HADD of fish habitat which are prohibited by the Fisheries Act unless authorized by DFO. There is also a Duty to Report and a Duty to take corrective actions in the event an unauthorized death of fish or HADD of fish habitat occurs. NTPC is also responsible to avoid prohibited effects on listed aquatic species at risk,	**Sep 4:** NTPC acknowledges this comment and thanks DFO for their time to review	

		any part of their critical habitat or the residences of their individuals, and prevent the introduction of non-indigenous species. At this time, there are no listed aquatic species at risk on Schedule 1 of the federal Species at Risk Act within the vicinity of the facility.		
2	Environmental Studies and Screening - Level Environmental Assessment	**Comment** Fisheries and Oceans Canada (DFO) and the Northwest Territories Power Corporation (NTPC) have been working together on the Spillway Dam replacement project for many years. Through monitoring and adaptive management, changes have been made to operations, flow requirements for fish and mitigation measures have been implemented by NTPC to avoid and mitigate impacts to fish and fish habitat to the greatest extent possible. **Recommendation** DFO recommends that NTPC continue to work with DFO for the spillway replacement project independent of the Water Licence Renewal.	**Sep 3:** DFO indicated in 2017 that all conditions of Fisheries Act Authorization 09-HCAA-CA6-00079 have been satisfied, and it was through working with DFO that NTPC developed and implemented the Bluefish IFR Gate Minimum Flow Standard Operating Procedure, the Planned Shutdown Standard Operating Procedure, and the IFR Gate Staff Gauge Readings Procedure, which will help to protect resident and in-migrating fish moving forward.	
3	Abandonment and Restoration Plan	**Comment** Removal of the Bluefish and Duncan Dam has the potential to impact fish and fish habitat. **Recommendation** If the dams are to be decommissioned, the Proponent should submit a Request for Review to DFO.	**Sep 3:** Bluefish remains an important component of the North Slave electrical grid and there is no expectation of decommissioning any dams in the foreseeable future. NTPC acknowledges this comment and commit to work with DFO if the dams are to be decommissioned.	
4	Emergency Preparedness Plan	**Comment** Dam failures have the potential to impact fish and fish habitat.	**Sep 3:** NTPC acknowledges this comment and commits to notify DFO in the event of possible or	

		Recommendation The Proponent has a Duty to Notify DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to (http://www.dfo-mpo.gc.ca/pnw-ppe/contact-eng.html).	actual dam failure as outlined in the Emergency Preparedness Plan. NTPC has a Dam Safety Management Program and dam safety requirements under the water licence where monthly dam inspections are completed by operators, an annual dam safety inspection is completed by a third party engineer and a full dam safety review is completed for the facility every 7 years.	
5	Operations Maintenance and Surveillance Manual V1 and V2	**Comment** Operation of the Bluefish Hydroelectric facility and associated dams have the potential to kill fish through entrainment and impingement at trash racks, turbine mortality, stranding and barotrauma. DFO and NTPC are currently working on the review of a Monitoring and Maintenance Program at the head gate trash racks to mitigate and avoid the death of fish. An amendment to the existing Fisheries Act authorization may be required. **Recommendation** The Proponent should provide a history of any fish kills that have occurred. DFO recommends that an assessment of entrainment and impingement, barotrauma, and turbine mortality from operation of the facility be undertaken to determine if a Fisheries Act Authorization may be required. OR DFO recommends that NTPC continue to work with DFO on the monitoring and maintenance program	**Sep 3:** NTPC acknowledges this comment and will continue to work with DFO on the monitoring and maintenance program which has been submitted to DFO for approval. Copies of all reports resulting from fisheries monitoring and studies at Bluefish Hydro will be provided to DFO.	

		independent of the Water Licence Renewal.		
6	Operations Maintenance and Surveillance Manual V1 and V2	**Comment** Operations and regulating flow has the potential to cause the death of fish; and the harmful alteration, disruption or destruction of fish habitat, especially during critical spawning times. **Recommendation** DFO recommends that NTPC continue to work with DFO independent of the Water Licence Renewal.	**Sep 3:** The Bluefish IFR Gate Minimum Flow Standard Operating Procedure, the Planned Shutdown Standard Operating Procedure, and the IFR Gate Staff Gauge Readings Procedure were developed in conjunction with DFO with the intent of maintaining sufficient flows for resident and in-migrating fish throughout the year. These Procedures were developed as a result of detailed monitoring data and in cooperation with DFO and as an outcome of the Flow Monitoring Plan required by the Fisheries Act Authorization (which is now closed).	
7	Operations Maintenance and Surveillance Manual V1	**Comment** Page 57: Planned Shutdowns Moving forward, planned shutdowns of the Bluefish Hydroelectric G1 and G2 plants shall not be completed between September 1st and October 31st of each year. Comment: Fall spawning fish egg survivability could be impacted if shutdowns occur during the Restricted Activity Timing Window. **Recommendation** DFO recommends that shutdowns occur as per the Restricted Activity Timing Window guidance found on our website : https://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/nwt-eng.html	**Sep 3:** The Bluefish Planned Shutdown Standard Operating Procedure was developed to be protective of the feeding and spawning activity of Lake Whitefish, Lake Trout at Lake Cisco observed in the Yellowknife River at Bluefish Hydro. This procedure was developed in conjunction with DFO based on detailed monitoring data for the site to ensure planned shutdowns do not occur when fish are spawning in the tailrace.	
8	General Comment	**Comment** DFO and NWTPC have been working cooperatively for many years on this project. Both parties	**Sep 4:** DFO indicated in 2017 that all conditions of Fisheries Act Authorization 09-HCAA-CA6-00079 have been satisfied,	

		recognize the importance of the spawning areas within the tailrace and spillway. NWTPC continues to address DFO concerns and implement appropriate measures to ensure compliance with the Fisheries Act. **Recommendation** Based on monitoring, DFO may be in a position to recommend an application for a new or an amendment of the existing Fisheries Act Authorization be submitted to DFO for the ongoing operation of the Bluefish hydroelectric station and spillway, and associated infrastructure. DFO recommends that this be independent of the water licence renewal process, as monitoring results are still forthcoming. Should an Authorization be required, the Proponent will need to submit the following information and documents to apply for a Fisheries Act authorization: a completed Application Form for the Issuance of an Authorization under Paragraphs 34.4(2)(b) and 35(2)(b) of the Fisheries Act (Non-Emergency Situations) (http://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/request-review-demande-d-examen-005-eng.html); the required information and documentation set out in the Authorizations Concerning Fish and Fish Habitat Protection Regulations (the	and it was through working with DFO that NTPC developed the Bluefish IFR Gate Minimum Flow Standard Operating Procedure, the Planned Shutdown Standard Operating Procedure, and the IFR Gate Staff Gauge Readings Procedure, which will help to protect resident and in-migrating fish. There are no operational changes proposed in the new water licence application and as such there should be no need for a new Fisheries Act Authorization.	

		Regulations) (http://www.gazette.gc.ca/rp-pr/p2/2019/2019-08-21/html/sor-dors286-eng.html);		
GNWT - ENR - EAM (Environmental Assessment and Monitoring): Central Email GNWT				
ID	**Topic**	**Reviewer Comment/Recommendation**	**Proponent Response**	**Board Staff Response**
14	General File	**Comment** (doc) ENR Letter with Comments and Recommendations **Recommendation**		
1	Topic: Water Licence Application â€“ Section 6, Water Use	**Comment** Section 6 of the application requires the identification of water use. ENR notes the uses: "To obtain water, To modify the bed or bank of a watercourse, and To divert water", were selected; however, "To alter the flow of, or store, water", isn't selected. The proponent has also stated in Section 7 that they intend to "Use, divert and store water from the McCrea River and the Yellowknife River to the Duncan and Bluefish Lakes". **Recommendation** 1) ENR recommends NTPC clarify why To alter the flow of, or store, water was not selected in the application.	**Sep 4:** ENR is correct that Section 6 of the Application for Water Licence should have included To alter the flow of, or store, water	
2	Topic: Environmental Monitoring	**Comment** It isn't clear in the application what, (if any) environmental monitoring, specifically related to aquatic effects, was to occur in 2020 or is planned for the future. Although the proponent has submitted the Environmental Studies Summary and	**Sep 4:** There is a large body of environmental monitoring and mitigation that has occurred at the Bluefish facility in the last ten years due to the environmental requirements of the water licence and Fisheries Act Authorization for the construction of the replacement dam in 2012. The	

		Screening Report, the report only highlights past monitoring and studies. The application and accompanying documents provide no clear indication of any proposed environmental monitoring programs, related to aquatic effects, under the new Water Licence. **Recommendation** 1) ENR recommends NTPC clarify whether they intend to conduct any environmental monitoring related to aquatic effects in the future. If so, ENR recommends NTPC provide information outlining the proposed monitoring. If not, ENR requests NTPC provide a rationale for that decision.	results of the environmental monitoring to date are outlined in the Bluefish Hydro Facility-Environmental Studies Summary and Screening-Level Environmental Assessment- July 2020; Water levels and flow will continue to be monitored as part of the Surveillance Network Program. Fisheries Monitoring will be completed in the Bluefish Tailrace and Reach 1 for 3-6 years as part of the implementation of the offsetting measures for the Taltson Fisheries Act Authorization. Fisheries Monitoring at the Headgate will be completed as outlined in the Headgate Fisheries monitoring and maintenance program currently under review by DFO. Flow Monitoring and Mercury Monitoring have been deemed complete.	
3	Topic: Aquatic Effects Monitoring Program	**Comment** The application does not include any reference to a proposed Aquatic Effects Monitoring Program (AEMP). ENR is aware that the NTPC Taltson Twin Gorges Hydroelectric Generating Station (Type A Water Licence - MV2011L4-0002) includes the implementation of an AEMP. Given that both Taltson and Bluefish are hydroelectric facilities, operated by NTPC, further explanation is required to understand NTPC's rationale as to why one of its hydroelectric facilities would require an AEMP and not the other. **Recommendation** 1) ENR	**Sep 4:** The Guidelines for Aquatic Effects Monitoring Programs state: An AEMP may be required for any project or undertaking where a change or effect to the aquatic environment is reasonably expected; The requested water licence is neither a project nor an undertaking; it is for ongoing operation. The Guidelines go on to state that AEMPs are often required of projects which directly deposit waste to the receiving environment; There is no deposit of waste from Bluefish Hydro, nor would this be allowable under the current or requested water licences. NTPC developed an Aquatic Monitoring Plan, with input from GNWT-ENR, for the	

		recommends NTPC provide more information providing their rationale as to why Bluefish should, or should not, require an AEMP.	construction project at Bluefish to replace the primary impoundment dam (MV2009L4-0004), specifically to monitor the impacts of the in-stream and near-stream construction activity in 2011 and 2012. These reports concluded that the impact to the aquatic environment from the Project was minimal, and monitoring was discontinued when construction was completed. The AEMP for Taltson Hydro was in response to particular concerns regarding the Taltson operation, and in response to the fact that there was little available information available for Taltson, which is not the case for Bluefish, where we have many years of detailed monitoring data, some of which also applies to and is addressed at Bluefish through other studies. For example, the Taltson AEMP includes a mercury monitoring component, which is addressed at Bluefish through the Mercury Special Effects Study. The Taltson AEMP includes the Trudel Creek and Lower Taltson River Fish Stranding Monitoring, an issue that was studied and is avoided at Bluefish through the Flow Monitoring Plan and the Bluefish IFR Gate Minimum Flow Standard Operating Procedure, the IFR Gate Staff Gauge Readings Procedure, and the Planned Shutdown Standard Operating Procedure. The Taltson AEMP includes the Nonacho Lake and Lower Taltson River Flow Analysis, which was addressed at Bluefish through the Flow Monitoring	

			Plan. The Taltson AEMP includes the Riparian Habitat and Fish Usage Assessment, for which there is an equivalent at Bluefish in the Flow Monitoring Plan, monitoring of spawning activity on the old Bluefish dam, resident fish monitoring in the Yellowknife River between Bluefish Lake and Prosperous Lake, spawning activity in Reach 1 and at the tailrace, and monitoring of habitat enhancement structures in Reach 1. As such, NTPC believes that all concerns raised through the previous and current operational water licence, and the water licence for the construction of the new Bluefish Dam, have been or continue to be addressed through existing studies and monitoring.	
4	Topic: Flow Monitoring Plan	**Comment** Table 4 of the Environmental Studies Summary and Screening Report refers to a Flow Monitoring Plan as one of the mitigations to changes to flow or level changes. ENR was unable to locate this plan within the application. **Recommendation** 1) ENR recommends NTPC clarify the status of the Flow Monitoring Plan and include it as part of the Water Licence Application package.	**Sep 4:** The Flow Monitoring Plan was a document specific to Fisheries Authorization 09-HCAA-CA6-00079, and did not apply to the Water Licence. The intent of the Flow Monitoring Plan was to establish methods to reliably maintain and control flows within the Yellowknife River between Bluefish Lake and Prosperous Lake (used as a spillway), and monitor the effect of these flows on fish presence within the reaches accessible from Prosperous Lake. The annual reports from this study are included in the Fisheries and Flow Monitoring Study reports on the public registry for MV2009L4-0004 and MV2005L4-0008. The Flow Monitoring Study is now complete, and the outcome of the study was the preparation of the	

			Bluefish IFR Gate Minimum Flow Standard Operating Procedure (Provided in the Operations, Maintenance and Surveillance Manual, Appendix A). DFO has confirmed that all conditions of Fisheries Act Authorization 09-HCAA-CA6-00079 have been satisfied	
5	Topic: Schedule of Monitoring	**Comment** Table 4 of the Environmental Studies Summary and Screening Report refers to a schedule of monitoring, and monitoring locations, that were implemented as one of the mitigations to changes to flow or level changes. **Recommendation** 1) ENR recommends NTPC clarify the schedule of monitoring, and monitoring locations, as referenced in Table 4.	**Sep 4:** The schedule referred to was provided to DFO in the Flow Monitoring Plan, and included two flow monitoring stations in the Yellowknife River between Bluefish Lake and Prosperous Lake (one downstream of the Spillway and dam IFR gate, a second at Reach 1 immediately upstream of Prosperous Lake). Flow was monitored at these stations in summer, fall and winter under various flow and gate setting conditions, to develop the Bluefish IFR Gate Minimum Flow Standard Operating Procedure, the IFR Gate Staff Gauge Readings Procedure, and the Planned Shutdown Standard Operating Procedure. The Flow Monitoring Study is now complete, and DFO has confirmed that all conditions of Fisheries Act Authorization 09-HCAA-CA6-00079 have been satisfied.	
6	Topic: Minimum Flow	**Comment** Condition D), 3. of the current Water Licence requires that a minimum flow of six cubic metres per second shall be maintained in the Yellowknife River between Bluefish and Prosperous Lakes. **Recommendation** 1) ENR recommends the Board and	**Sep 4:** This condition is intended to maintain continuous downstream flows to protect the aquatic environment, and NTPC proposes to maintain this flow rate and this water licence condition.	

		NTPC clarify if they propose to maintain Condition D) 3. in the new Water Licence.		
7	Topic: Surveillance Network Program	**Comment** The Water Licence Application and accompanying documents do not include reference to the continuation of the Surveillance Network Program at NTPC - Bluefish. The proponent has not identified whether they intend to continue SNP monitoring as in the past and/or whether they intend to make any modifications. ENR also notes a figure should be provided that identifies the locations of all proposed SNP stations. **Recommendation** 1) ENR recommends NTPC provide clarification on its intent to continue and/or modify the Surveillance Network Program.	**Sep 4:** NTPC has no intent of modifying the Surveillance Network Program	
8	None	**Comment** None **Recommendation** 2) ENR recommends NTPC provide a figure identifying the locations of the SNP stations.	**Sep 4:** Updated maps showing the SNP locations will be provided	
9	Topic: Spill Contingency Plan Table of Contents	**Comment** Section 6.2 in the Spill Contingency Plan, Table of Contents reads: ERROR! BOOKMARK NOT DEFINED. The page number listed for Section 8.2 Spill Kits and Equipment, in the table of contents, is also incorrect. **Recommendation** 1) ENR recommends the proponent update the Table of Contents to correct the issues raised the above comments.	**Sep 4:** These items will be corrected in the next version of the Spill Contingency Plan, to be provided at the direction of the MVLWB.	

10	Topic: Spill Contingency Plan Section 2.2	**Comment** Section 2.2 states: "The Facility layout including the locations of the generators, main buildings, bunkhouse, key facility infrastructure, construction operations infrastructure, waste incinerator, septic system, gray water system, sewage treatment plant, fuel storage areas and surrounding water bodies are shown on Figure 2-1". ENR notes Figure 2-1 does not show the facility layout but rather the Bluefish Lake Hydroelectric Facility Location. Should this statement be referring to Figure 2-2 rather than 2-1? If this assumption is correct, ENR also notes Figure 2-2 does not actually identify all the locations of the infrastructure areas, listed above. This includes the septic system, gray water system, and sewage treatment plant. ENR notes this could lead to confusion for on-site personal responsible for implementing the plan. **Recommendation** 1) ENR recommends Section 2.2 and Figure 2-2 be updated to clarify the issues raised in the above comments.	**Sep 4:** These items will be corrected in the next version of the Spill Contingency Plan, to be provided at the direction of the MVLWB.	
11	Topic: Spill Contingency Plan Section 2.3	**Comment** Section 2.3 includes a list of the main hazardous materials storage areas and refers to Figure 2-2 for their locations. ENR notes these areas are not clearly identified on Figure 2-2. Perhaps they are labeled differently on the figure? Section 2.3 also refers to	**Sep 4:** These items will be corrected in the next version of the Spill Contingency Plan, to be provided at the direction of the MVLWB.	

		Figure 2-2 for the locations of specialty spill response material; however, Figure 2-2 does not clearly identify the location of the specialty spill response material. **Recommendation** 1) ENR recommends the proponent update Figure 2-2 to clearly label each of the main hazardous materials storage areas and the locations of spill response materials.		
12	Topic: Spill Contingency Plan - Section 2.3 Table 2-1	**Comment** In Section 2.3, the plan refers to Table 2-2 as follows: "an estimated list of hazardous materials on-site, the average quantities normally stored, the maximum quantity", the storage location and the material use. ENR notes that this should actually refer to Table 2-1 instead of 2-2. ENR would also like to note on page 14, the table is labeled incorrectly as Table 2-2 and should be labeled as Table 2-1 (continued) as it as a continuation of table on the previous page. **Recommendation** 1) ENR recommends the proponent update this section and table, accordingly.	**Sep 4:** These items will be corrected in the next version of the Spill Contingency Plan, to be provided at the direction of the MVLWB.	
13	Topic: Waste Management Plan Figure 2-1	**Comment** Section 2.1 lists a number of storage areas that are said to be identified on Figure 2.1. ENR notes that some of these storage areas are not actually identified on the figure. Perhaps they are labeled differently on the figure? ENR notes this could lead to confusion for on-site	**Sep 4:** These items will be corrected in the next version of the Waste Management Plan, to be provided at the direction of the MVLWB	

		personal responsible for plan implementation. **Recommendation** 1) ENR recommends the proponent review the storage areas listed in Section 2.1 and ensure those areas are correctly labeled in Figure 2.1.		
MVLWB: Tyree Mullaney				
ID	**Topic**	**Reviewer Comment/Recommendation**	**Proponent Response**	**Board Staff Response**
1	Comprehensive Dam Safety Review	**Comment** In the application and supporting documents, Board staff note that the Comprehensive Dam Safety Review included a number of priority issues (low, medium, high and very high). Board staff have also reviewed all documents to attempt to identify where the recommendations associated with these priority issues have been met. **Recommendation** Please provide additional information on how the priority issues have been addressed.	**Sep 4:** The Dam Safety Engineer position is currently vacant. NTPC will work with the Interim Dam Safety Engineer to prepare an update on the Dam Safety Review Items.	
2	Operations, Maintenance, and Surveillance Manual - Volume 1	**Comment** It was noted that the operation of the Duncan Lake Dam was excluded from the OMS Manual although it was noted in the Emergency Preparedness Plan. **Recommendation** Please provide rational as to why the Duncan Lake Dam was excluded from the OMS Manual.	**Sep 4:** Duncan spillway and stop log operation is attached as Appendix C to Volume One of the Bluefish OMS Manual. It will be referenced in future versions of the OMS Manual.	

3	Operations, Maintenance, and Surveillance Manual - Volume 2	**Comment** It was noted that the Bluefish Dam was not included in the Snow Survey Forecasting the Estimation of Flood Inflows section of the OMS Manual. **Recommendation** Please provide rational as to why Bluefish Dam was excluded from this section of the OMS Manual.	**Sep 4:** Snow survey results from Bluefish Hydro are not used in flow forecasting due to its location at the most southern end of the 11,300 km2 drainage basins. It therefore only represents the small amount of local runoff around Bluefish Lake. In addition, the snow survey is performed as late in the winter as possible in order to capture total snowfall. Because of its southern location the Bluefish survey site often has significant snowmelt prior to the Snow Survey being performed in the rest of the basin. Including that data would negatively impact the calculation of predicted inflows.	
4	Operations, Maintenance, and Surveillance Manual - Volume 2 - Appendix VIII	**Comment** In the Standard Operating Procedures for the Operation of the Gate Hoist at the Bluefish Facility is in draft form. **Recommendation** Please provide rational as to why is only in draft form.	**Sep 4:** These items will be corrected in the next version of the Operations, Maintenance and Surveillance Manual, to be provided at the direction of the MVLWB.	
5	Operations, Maintenance, and Surveillance Manual - Volume 2 - Appendix V	**Comment** A number of drawings that were provided are not stamped and signed by a Professional Engineer including, As-Built Instrumentation Plan (Drawing #C209), As-Built Plan of Overflow Spillway and Bottom Outline (Drawing #301) and Typical Section Showing Critical Material Interfaces to be Surveyed for Accurate Record Drawing Production (Figure 5) **Recommendation** Please provide rational as to why the	**Sep 4:** These items will be corrected in the next version of the Operations, Maintenance and Surveillance Manual, to be provided at the direction of the MVLWB.	

		drawings are not signed and stamped.		
6	Operations, Maintenance, and Surveillance Manual - Volume 2	**Comment** Although the OMS Manual Vol. 1 contains text explaining the linkage between the two OMS Manual volumes, it may help avoid confusion if NTPC put a cover sheet on the Klohn Crippen Berger report to clearly indicate this is considered volume 2 of the OMS Manual **Recommendation** Please address in next version of the OMS.	**Sep 4:** These items will be corrected in the next version of the Operations, Maintenance and Surveillance Manual, to be provided at the direction of the MVLWB.	
7	Operations, Maintenance, and Surveillance Manual - Volume 2	**Comment** Water Management and Reservoir Operating Plan - Bluefish. There are reference-line errors on pages E-7, E-8 and E-13. **Recommendation** Please update the links.	**Sep 4:** These items will be corrected in the next version of the Operations, Maintenance and Surveillance Manual, to be provided at the direction of the MVLWB.	
8	Environmental Studies and Screening-level Environmental Assessment - Section 2.1 Environmental Studies	**Comment** The list provided on p.4 and text on p. 8 (Section 2.5) indicate dates for the Spawning Fish in the Yellowknife River studies occurring between 2016 and 2019; however, Table 1 indicates the last monitoring year was 2018 with the report citation date being 2019. **Recommendation** Please confirm if the last monitoring program for this component was completed in 2018 or if additional monitoring was completed in 2019.	**Sep 4:** The most recent year of monitoring under the Fisheries and Flow Monitoring Report was 2018, and the report was prepared in 2019.	
9	Environmental Studies and Screening-level Environmental Assessment -	**Comment** Text on p.6 states that non-lethal sampling of Northern Pike and Lake Trout was completed in 2012, 2016, and 2017 to assess	**Sep 4:** The 2016 Fisheries and Flow Monitoring Report recommended that mercury monitoring be postponed until 2018 to allow slimy sculpin	

	Section 2.2 Bluefish Lake Fisheries Study and Mercury Monitoring Program	mercury concentrations in sport fish; however, the 2017 studies listed in Table 1 do not indicate mercury monitoring was completed. **Recommendation** Please confirm if Table 1 is missing information related to 2017 mercury monitoring in sport fish.	populations to recover from the lethal monitoring program. Monitoring resumed in 2018.	
10	Environmental Studies and Screening-level Environmental Assessment - Section 2.3 Habitat Compensation Shoal Monitoring in Bluefish Lake	**Comment** Text on p.6 states that annual shoal monitoring began in 2012. A number of studies were completed in 2012, but shoal monitoring is not listed in Table 1. **Recommendation** Please confirm if Table 1 should be updated to specifically include shoal monitoring.	**Sep 4:** Monitoring of the shoal in Bluefish Lake created through the closure of the old Bluefish dam was required through Fish Habitat Compensation Plan under Fisheries Act Authorization 09-HCAA-CA6-00079. The monitoring initiated in 2013 (following the closure of the old dam) through to 2016, when it was determined in consultation with DFO that no further monitoring was required. This information was incorporated in the reports listed in Table 1, and no updates to Table 1 are required.	
North Slave Metis Alliance: Jess Hurtubise				
ID	**Topic**	**Reviewer Comment/Recommendation**	**Proponent Response**	**Board Staff Response**
1	General Comment	**Comment** NSMA has reviewed NTPC's application for the renewal of their type A Water Licence. We would like to acknowledge the respectful, timely, and collaborative engagement accorded by NTPC through this process. NSMA was particularly appreciative of the Plain Language Summary resources summarizing this process during early spring engagement. Due to this	**Sep 4:** NTPC thanks the North Slave Metis Alliance for their comment.	

		licence being a renewal (i.e., few changes from the previous Water Licence), NSMA is in support of its issuance. **Recommendation** N/A		
2	Environmental Monitoring	**Comment** NSMA is particularly concerned in the aquatic environment around Bluefish Hydro dam, notably in the protection and conservation of fish and aquatic species. This area is particularly important to NSMA members for traditional harvesting practices, notably during late fall fish runs. NSMA has reviewed other parties' submissions and recommendations to this process and we would like to support ENR's recommendation in regards to requesting further details on future monitoring and an Aquatic Effects Monitoring Plan, which reads as follows: 1) "ENR recommends NTPC clarify whether they intend to conduct any environmental monitoring related to aquatic effects in the future. If so, ENR recommends NTPC provide information outlining the proposed monitoring. If not, ENR requests NTPC provide a rationale for that decision"; and 2) "ENR recommends NTPC provide more information providing their rationale as to why Bluefish should, or should not, require an AEMP. " **Recommendation** NSMA requests NTPC clarify their	**Sep 4:** Please refer to the response to GNWT-ENR ID#2 and ID#3.	

		plans for 2020 environmental monitoring of the aquatic environment and provide rationale for the applicability or necessity (or not) of an Aquatic Effects Monitoring Plan.		
Tlicho Government: LONGINUS EKWE				
ID	**Topic**	**Reviewer Comment/Recommendation**	**Proponent Response**	**Board Staff Response**
1	Mercury Monitoring Program	**Comment** According to NTPC on their Environmental Studies and screening-level Environmental Assessment report section 2.2 paragraph 2, "Recent trends in total mercury concentrations in Northern Pike show a non-significant decrease from 2016 to 2018 (Golder 2019), suggesting that mercury concentrations have stabilized following initial increases in concentrations post-construction. Total mercury concentrations in Slimy Sculpin Carcass tissue were statistically significantly different between study years, showing a decline in total mercury concentrations over the post-construction period (Golder 2019). Results indicate that methylmercury concentrations may be returning to baseline conditions in Bluefish Lake". **Recommendation** It will be difficult to detect all the sources of methylmercury, though its mostly through hydro dam flood. So, it will be more precautionary to	**Sep 4:** NTPC notes that significant resources have been directed to the mercury monitoring, and the results to date indicate that Northern Pike and Lake Trout in Bluefish Lake are below guideline levels set by the Canadian Food Inspection Agency and mercury levels have stabilized or are decreasing which is why the study was deemed complete. At this stage, NTPC believes that no further value will be gained by continued monitoring, considering the effort required and the harm caused to fish by the monitoring.	

		continue with the Mercury Monitoring Program. Though the result of this monitoring program may be made public on the Boards website but developing a more direct method of communicating the information to affected communities will be an additional way of communicating the human risk associated with methylmercury through fish consumption. Some communities rely on fish harvesting within this area and might be exposed to this contaminant, though the fish or other aquatic tissue sampling may not indicate high concentration of methylmercury in them or potential impacts on human, but communicating the results to the communities will build the confidence and also will be an opportunity educate them on the health impacts of methylmercury.		
2	Incinerator	**Comment** In the waste management plan document submitted by NTPC section 2.2.3, paragraph 2, NTPC stated that "the segregated waste streams that are incinerated include only those waste identified in section 2.2.1 waste segregation and storage methods". These wastes include: . food waste . food packaging, kitchen waste, and other food-contaminated waste . paper **Recommendation** Incineration of food waste is	**Sep 4:** There is usually only 1 full time operator on site and the amount of waste burned is negligible in relation to an increase in carbon footprint; transporting the waste offsite would result in an increase in carbon footprint.	

		not a sustainable waste management practice, as that will increase the amount of emission from the incineration process and thereby increase your organization's carbon footprint.		

Environmental Protection Operations Directorate
Prairie & Northern Region
9250 49th Street,
Edmonton, AB T6B 1K5

ECCC File: 5420 000 001/014
MVLWB File: MV2020L4-0005

August 21, 2020

via online review system

Chris Hotson
Regulatory Manager
Mackenzie Valley Land and Water Board
7th Floor, 4922 48th Street
P.O. Box 2130
Yellowknife, NT X1A 2P6

Dear Chris Hotson:

RE: MV2020L4-0005 – Northwest Territories Power Corporation – Bluefish – Type A Water Licence Application

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Mackenzie Valley Land and Water Board (MVLWB) by the Northwest Territories Power Corporation (the proponent) regarding the Bluefish Type A Water Licence Application. ECCC has uploaded our comments to the MVLWB On-line review system.

If you need more information, please contact Jody Small at 780-951-8961 or Jody.Small@Canada.ca.

Sincerely,

Margaret Fairbairn
Regional Director, Environmental Protection Operations Directorate, Prairie and Northern Region

Attachment(s): ECCC Comments Excel Sheet

cc: Jody Small, Head, Environmental Assessment North (NT and NU)
Abigayle Blackmore, Environmental Assessment Officer South

August 21, 2020

Jen Potten
Regulatory Coordinator
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Avenue
P.O. Box 2130
Yellowknife, NT
X1A 2P6

Dear Ms. Potten,

Re: Northwest Territories Power Corporation (NTPC)
Type A Water Licence Application – MV2011L4-0002
Continued Operation of the Bluefish Hydro- electric Facility
Request for Comments

The Department of Environment and Natural Resources, Government of the Northwest Territories has reviewed the application at reference based on its mandated responsibilities under the *Environmental Protection Act,* the *Forest Management Act*, the *Forest Protection Act, the Species at Risk (NWT) Act, the Waters Act* and the *Wildlife Act* and provides the following comments and recommendations for the consideration of the Board.

Topic 1: Water Licence Application – Section 6, Water Use

Comment(s):

Section 6 of the application requires the identification of water use. ENR notes the uses: "*To obtain water*, *To modify the bed or bank of a watercourse*, and *To divert water*", were selected; however, "*To alter the flow of, or store, water",* isn't selected. The proponent has also stated in Section 7 that they intend to "*Use, divert and store water from the McCrea River and the Yellowknife River to the Duncan and Bluefish Lakes*".

Recommendation(s):

1) ENR recommends NTPC clarify why "*To alter the flow of, or store, water*" was not selected in the application.

Topic 2: Environmental Monitoring

Comment(s):

It isn't clear in the application what, (if any) environmental monitoring, specifically related to aquatic effects, was to occur in 2020 or is planned for the future. Although the proponent has submitted the Environmental Studies Summary and Screening Report, the report only highlights past monitoring and studies. The application and accompanying documents provide no clear indication of any proposed environmental monitoring programs, related to aquatic effects, under the new Water Licence.

Recommendation(s):

1) ENR recommends NTPC clarify whether they intend to conduct any environmental monitoring related to aquatic effects in the future. If so, ENR recommends NTPC provide information outlining the proposed monitoring. If not, ENR requests NTPC provide a rationale for that decision.

Topic 3: Aquatic Effects Monitoring Program

Comment(s):

The application does not include any reference to a proposed Aquatic Effects Monitoring Program (AEMP). ENR is aware that the NTPC Taltson Twin Gorges Hydroelectric Generating Station (Type A Water Licence - MV2011L4-0002) includes the implementation of an AEMP. Given that both Taltson and Bluefish are hydroelectric facilities, operated by NTPC, further explanation is required to understand NTPC's rationale as to why one of its hydroelectric facilities would require an AEMP and not the other.

Recommendation(s):

1) ENR recommends NTPC provide more information providing their rationale as to why Bluefish should, or should not, require an AEMP.

Topic 4: Flow Monitoring Plan

Comment(s):

Table 4 of the Environmental Studies Summary and Screening Report refers to a Flow Monitoring Plan as one of the mitigations to changes to flow or level changes. ENR was unable to locate this plan within the application.

Recommendation(s):

1) ENR recommends NTPC clarify the status of the Flow Monitoring Plan and include it as part of the Water Licence Application package.

Topic 5: Schedule of Monitoring

Comment(s):

Table 4 of the Environmental Studies Summary and Screening Report refers to a schedule of monitoring, and monitoring locations, that were implemented as one of the mitigations to changes to flow or level changes.

Recommendation(s):

1) ENR recommends NTPC clarify the schedule of monitoring, and monitoring locations, as referenced in Table 4.

Topic 6: Minimum Flow

Comment(s):

Condition D), 3. of the current Water Licence requires that a minimum flow of six cubic metres per second shall be maintained in the Yellowknife River between Bluefish and Prosperous Lakes.

Recommendation(s):

1) ENR recommends the Board and NTPC clarify if they propose to maintain Condition D) 3. in the new Water Licence.

Topic 7: Surveillance Network Program

Comment(s):

The Water Licence Application and accompanying documents do not include reference to the continuation of the Surveillance Network Program at NTPC - Bluefish. The proponent has not identified whether they intend to continue SNP monitoring as in the past and/or whether they intend to make any modifications. ENR also notes a figure should be provided that identifies the locations of all proposed SNP stations.

Recommendation(s):

1) ENR recommends NTPC provide clarification on its intent to continue and/or modify the Surveillance Network Program.

2) ENR recommends NTPC provide a figure identifying the locations of the SNP stations.

Topic 8: Spill Contingency Plan – Table of Contents

Comment(s):

Section 6.2 in the Spill Contingency Plan, Table of Contents reads: *ERROR! BOOKMARK NOT DEFINED.*

The page number listed for Section 8.2 Spill Kits and Equipment, in the table of contents, is also incorrect.

Recommendation(s):

1) ENR recommends the proponent update the Table of Contents to correct the issues raised the above comments.

Topic 9: Spill Contingency Plan – Section 2.2

Comment(s):

Section 2.2 states:

"The Facility layout including the locations of the generators, main buildings, bunkhouse, key facility infrastructure, construction operations infrastructure, waste incinerator, septic system, gray water system, sewage treatment plant, fuel storage areas and surrounding water bodies are shown on Figure 2-1".

ENR notes Figure 2-1 does not show the facility layout but rather the Bluefish Lake Hydroelectric Facility Location. Should this statement be referring to Figure 2-2 rather than 2-1?

If this assumption is correct, ENR also notes Figure 2-2 does not actually identify all the locations of the infrastructure areas, listed above. This includes the septic system, gray water system, and sewage treatment plant. ENR notes this could lead to confusion for on-site personal responsible for implementing the plan.

Recommendation(s):

1) ENR recommends Section 2.2 and Figure 2-2 be updated to clarify the issues raised in the above comments.

Topic 10: **Spill Contingency Plan – Section 2.3**

Comment(s):

Section 2.3 includes a list of the main hazardous materials storage areas and refers to Figure 2-2 for their locations. ENR notes these areas are not clearly identified on Figure 2-2. Perhaps they are labeled differently on the figure?

Section 2.3 also refers to Figure 2-2 for the locations of specialty spill response material; however, Figure 2-2 does not clearly identify the location of the specialty spill response material.

Recommendation(s):

1) ENR recommends the proponent update Figure 2-2 to clearly label each of the main hazardous materials storage areas and the locations of spill response materials.

Topic 11: Spill Contingency Plan - Section 2.3 – Table 2-1

Comment(s):

In Section 2.3, the plan refers to Table 2-2 as follows:

"*an estimated list of hazardous materials on-site, the average quantities normally stored, the maximum quantity*", *the storage location and the material use*.

ENR notes that this should actually refer to Table 2-1 instead of 2-2.

ENR would also like to note on page 14, the table is labeled incorrectly as *Table 2-2* and should be labeled as *Table 2-1 (continued)* as it as a continuation of table on the previous page.

Recommendation(s):

1) ENR recommends the proponent update this section and table, accordingly.

Topic 12: Waste Management Plan – Figure 2-1

Comment(s):

Section 2.1 lists a number of storage areas that are said to be identified on Figure 2.1. ENR notes that some of these storage areas are not actually identified on the figure. Perhaps they are labeled differently on the figure? ENR notes this could lead to confusion for on-site personal responsible for plan implementation.

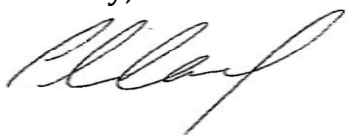
Recommendation(s):

1) ENR recommends the proponent review the storage areas listed in Section 2.1 and ensure those areas are correctly labeled in Figure 2.1.

Comments and recommendations were provided by ENR technical experts in the Water Management and Monitoring Division and the North Slave Region and were coordinated and collated by the Environmental Assessment and Monitoring Section (EAM), Environmental Stewardship and Climate Change Division.

Should you have any questions or concerns, please do not hesitate to contact Patrick Clancy, Environmental Regulatory Analyst at email: patrick_clancy@gov.nt.ca.

Sincerely,



Patrick Clancy
Environmental Regulatory Analyst
Environmental Assessment and Monitoring Section
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Department of Environment and Natural Resources
Government of the Northwest Territories