

ATTACHMENT: May 18, 2023
Federal Authority Advice Record
Response due by June 16, 2023

Moraine Power Generation Project – Moraine Initiatives Ltd.
Agency File: 005860

Department/Agency	Fisheries and Oceans Canada
Lead Contact	Erin Cawthorn
Full Address	1028 Parsons Road, Edmonton AB, T6X 0J4
Email	Erin.Cawthorn@dfo-mpo.gc.ca
Telephone	587-335-9522
Alternate Contact	Clayton James (Clayton.James@dfo-mpo.gc.ca)

-
1. Is it probable that your department or agency may be required to exercise a power or perform a duty or function related to the Project to enable it to proceed?

Yes

If yes, specify the Act of Parliament and that power, duty or function.

Based on the initial project description, a paragraphs 34.4(2)(b) and 35(2)(b) *Fisheries Act* Authorization may be required because the project has the potential to cause the death of fish and/or the harmful alteration, disruption, or destruction of fish habitat, which is prohibited unless authorized.

Fisheries and Oceans Canada (DFO) also reviews projects for 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*, respectively. Based on the initial project description, work will be occurring within the range of Rainbow Trout (Athabasca River population – Endangered) and a review to determine the need for a permit under the *Species at Risk Act* (SARA) will be required once detailed crossing information is available.

1b. Please describe any Indigenous or public consultation that will be undertaken in relation to the exercise of that power, duty or function, including when it would take place.

If DFO makes a determination that a *Fisheries Act* authorization and/or SARA permit is required, the Duty to Consult may be triggered if the decision has the potential to adversely impact potential or established Indigenous or Treaty rights. The Minister must consider any adverse effects that the decision may have on the rights of Indigenous peoples of Canada recognized and affirmed by section 35 of the Constitution Act, 1982. If the Agency determines that an IA is required, consultation during the IA may be relied upon for components of DFO's regulatory process dependent on the detail available during the IA. Consultation would continue through the *Fisheries Act* Authorization process. Typically, Indigenous consultation begins when all components of the authorization application have been received and are sufficient from a technical and policy perspective. However, DFO encourages proponents to engage Indigenous communities and incorporate their views and perspectives prior to submitting an application. DFO is available to participate in these early discussions.

The precise nature of consultation activities is dictated by developing a shared understanding with each respective community, and determining a mutual path forward. Feedback from Indigenous groups drives how impacts may be addressed, within the bounds of DFO's mandate.

DFO does not engage the public on a project-by project basis when considering a decision under paragraphs 34.4(2)(b) and 35(2)(b) of the *Fisheries Act*, nor under section 73 of SARA.

-
2. Is your department or agency in possession of specialist or expert information or knowledge that may be relevant to the conduct of an impact assessment of the Project?

Specify the specialist or expert information or knowledge.

Yes, DFO's specialist or expert information or knowledge is linked to its legislative and regulatory responsibilities under the *Fisheries Act* and *Species at Risk Act*. DFO possesses specialist or expert information or knowledge of fish and fish habitat including aquatic species at risk, and in the assessment of impacts to fish and fish habitat, and aquatic species at risk. This includes but is not limited to assessing the adequacy of sampling that has been conducted to describe the baseline environment and make comparisons to post-impact outcomes, and whether the avoidance, mitigation, and offsetting measures proposed by the proponent are appropriate and adequate.

-
3. Has your department or agency considered the Project; exercised a power or performed a duty or function under any Act of Parliament in relation to the Project; or taken any course of action that would allow the Project to proceed in whole or in part?

No.

Specify.

-
4. Has your department or agency had previous contact or involvement with the proponent or other party in relation to the Project? (for example: an enquiry about methodology, guidance, or data; introduction to the project)

No.

Provide an overview of the information or advice exchanged.

5. Does your department or agency have additional information or knowledge not specified, above, including information on the geographic, environmental, economic or social context of the project? (e.g. location of protected or sensitive areas, previous history between local communities and proponent or similar projects, local or regional social or economic concerns)?

Specify as appropriate.

DFO has ongoing regulatory oversight associated with other pipeline and road crossings of Chickadee Creek (DFO File No. 22-HCAA-02315, 15-HCAA-00412, 15-HCAA-00411, 14-HCAA-01968).

6. What are the key issues likely to be relevant to the public interest decision, based on the mandate and area(s) of expertise of your department, and which should be addressed in an impact assessment of the Project, should the Agency determine that one is required?

For each key issue:

- Describe the effect or the nature of the issue, including any relevant context;
- Provide the rationale and/or evidence for why it is a key issue;
- Identify briefly solutions to the issue, including any information or studies that should be required in the Tailored Impact Statement Guidelines, potential mitigation measures, and/or regulatory requirements relevant to the issue;
- Provide a concise, plain-language summary of the issue for inclusion in the Summary of Issues.

The information provided will be used by the Agency to determine if and an impact assessment is required and where appropriate to develop project-specific draft Tailored Impact Statement Guidelines that focus on the key issues likely to be relevant to the public interest decision.

Please use table 1 to respond to this question

See Table 1

7. Where possible, identify any clarifications or additional information the Proponent could include in the Detailed Project Description or in the response to the Summary of Issues that would:

- give confidence that an issue or effect could be addressed and managed;
- inform the decision as to whether an impact assessment is required; or
- aid in tailoring the Impact Statement Guidelines, if an impact assessment is required.

These clarifications and additional information will be included as specific questions in the Summary of Issues provided to the proponent

Please use table 2 to respond to this question

See Table 2

Erin Cawthorn
Name of
Departmental /
Agency Responder

Fish and Fish Habitat
Protection Biologist
Title of Responder

June 9, 2023
Date

Table 1: Key Issues to inform decision-making

The Agency asks that federal authorities align expert advice with the Agency’s approach to tailoring, which focuses on key issues or effects that are likely to be relevant to the public interest decision. In identifying key issues, federal authorities should be mindful of the Project’s context (size, scope, location), Indigenous knowledge and perspectives, and public concerns. Key issues that may be relevant to the public interest decision include:

- effects that may be significant, based on federal experts’ knowledge and experience with past projects;
- effects that may impact Indigenous peoples and their rights, based on Indigenous knowledge and perspectives or experience with past projects;
- effects on key species or habitats (e.g. at risk, important to Indigenous communities, commercial importance, provide important ecosystem function);
- issues or effects that may result from novel project activities, components or technology;
- effects with large uncertainties, including in the effectiveness of mitigation measures;
- transboundary effects where mitigation measures are limited;
- positive effects, including where project may support other governmental priorities, including reconciliation with Indigenous peoples; and
- key concerns raised by Indigenous or local communities.

Effects that are anticipated to be minor or which can be managed using well understood mitigation measures, existing guidance, and/or other regulatory processes may have simplified information requirements or may be removed entirely. Measured advice from federal authorities on key issues and solutions —and on the scope and detail of any required information and studies — will enable the Agency to focus assessments on issues that are important to participants and to decision-makers.

Comment ID	Valued Component or Factor to Consider	Description of Key Issue (Context and Rationale)	Solutions	Plain language summary for inclusion in Summary of Issues
<p><i>Please identify comments by organization and comment number.</i></p> <p><i>e.g.: IAAC-01</i></p>	<p><i>Identify valued component(s) or factor to consider—within the mandate of your department or agency—to which the effect or issue applies.</i></p>	<p><i>Provide a brief description of the issue and rationale for being a key issue.</i></p> <p><i>Include, where relevant,:</i></p> <ul style="list-style-type: none"> • <i>the pathway of effects;</i> • <i>social, economic or environmental context which are relevant to it being a key issue;</i> • <i>key uncertainties that should be addressed in the impact assessment;</i> • <i>Indigenous or public concerns or perspective;</i> • <i>potential for differential effects among diverse subgroups;</i> • <i>scientific evidence or traditional knowledge, including from past project experience, which supports inclusion as a key issue.</i> 	<p><i>Where applicable, briefly identify solutions to address the potential issue or effects including</i></p> <ul style="list-style-type: none"> • <i>Information or studies required to describe and characterize the effect, should an impact assessment be required; including any guidance for data collection and/or analysis or existing data sources to inform the assessment;</i> • <i>Any powers, duties or functions that your department or agency has that may mitigate, manage, or set conditions related to the effect;</i> • <i>Guidance or policies for mitigating effects or any standard and well-understood mitigation measures that would address the effect, including follow-up monitoring activities; and/or</i> • <i>Commitments the proponent could make to respond to the issue.</i> <p><i>Where available, please refer to existing text in the TISG template.</i></p>	<p><i>For issues to be included in the Summary of Issues, provide a concise, plain language synopsis of the key issue and any questions or directions for the proponent.</i></p>
DFO-01	Fish and Fish Habitat including Species at Risk	<p>General - the potential for the project to cause the harmful alteration, disruption, or destruction of fish habitat, or death of fish, including impacts to aquatic species at risk and their residences and critical habitat:</p> <p>The initial project description provides enough information to indicate that there will be potential effects on fish and fish habitat from the Project, and potential effects to aquatic species at risk that will require further review from Fisheries and Oceans Canada. As expected in the initial project description phase, the exact magnitude, nature, and ability to mitigate direct and indirect impacts is not fully understood. The proponent states that potential effects include: changes in surface water quality, changes in surface water quantity, changes in fish habitat, and changes in fish mortality risk. Without additional information on fish and fish habitat, including aquatic species at risk, at each crossing site, and the type of construction method proposed, DFO will be unable to understand potential effects on fish and fish habitat, and aquatic species at risk; and if these effects can be effectively mitigated.</p> <p>The project could result in the harmful alteration and/or destruction of fish habitat as a result of trenched pipeline installation potentially resulting in direct and indirect, negative impacts to fish and fish habitat. Trenchless methods of installation may require riparian</p>	<p>1) DFO suggests that the proponent should take the following steps to inform a full understanding of the Project’s potential effects on fish and fish habitat, and aquatic species at risk:</p> <ul style="list-style-type: none"> - Use of a Pathways of Effects approach to determine potential effects - Identify whether additional site-specific avoidance and mitigation measures can be implemented utilizing the standard measures to avoid and mitigate impacts to fish and fish habitat, and aquatic species at risk. DFO emphasizes the importance of the mitigation hierarchy and the need to avoid and mitigate to the extent possible prior to considering the need to offset. DFO encourages the proponent to explicitly consider this approach in their planning processes - identify all residual effects on fish and fish habitat, including aquatic species at risk, through a detailed accounting of potential effects and proposed mitigation measures; and - develop an offsetting plan, if required. The proponent’s analysis of potential effects and the pathways leading to residual effects should explicitly identify the requirement for offsetting. Offsetting for impacts to species at risk can be challenging. If species at risk are affected by a project, the offsetting plan should include measures to benefit the species impacted and should align with the recovery strategy and action plan for the species. <p>2) If a <i>Fisheries Act</i> Authorization and/or SARA permit is required, conditions to mitigate and manage effects to fish and fish habitat, and aquatic species at risk, would be included in the authorization and/or permit. They would</p>	<p>Impacts to fish and fish habitat, and aquatic species at risk, during construction, operation, and decommissioning of the project are yet to be fully understood; however, impacts are anticipated to be largely limited to the natural gas pipeline watercourse crossings. There is potential for the harmful alteration, disruption, or destruction of fish and fish habitat, as well as effects to aquatic species at risk. Specifics of the locations, crossing methods, potential impacts, and the application of mitigation will need to be provided to determine if residual effects may occur that would result in prohibited effects under the <i>Fisheries Act</i> and/or <i>Species at Risk Act</i> that would require authorization.</p>

		<p>vegetation removal, which could result in the destruction of riparian critical habitat for Athabasca Rainbow Trout.</p> <p>DFO has standard mitigation measures posted on its projects near water website: https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html. Additional analysis typically leads to the generation of site-specific measures in addition to standard measures. DFO encourages the proponent to explicitly consider the mitigation hierarchy, avoid and mitigate to the extent possible prior to considering the need to offset.</p> <p>DFO's offsetting requirement allows for mitigation of remaining residual effects on fish and fish habitat, including aquatic species at risk; generation of adequate offsetting plans can be challenging and is proponent driven.</p> <ul style="list-style-type: none"> - Policy for applying measures to offset adverse effects on fish and fish habitat under <i>the Fisheries Act</i>. https://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/policies-politiques-eng.html. - Equivalency metrics for the determination of offset requirements for the Fisheries Protection Program https://publications.gc.ca/site/eng/9.819522/publication.html - Species at Risk Act Permitting Policy - Document search - Species at risk registry (canada.ca) <p>The proponent's analysis of potential effects and the pathways leading to residual effects should explicitly identify the requirement for offsetting.</p> <ul style="list-style-type: none"> - Monitoring program the proponent will undertake to verify offsetting success using scientifically defensible methods. <p>Prior to issuing a permit or authorization for affecting a listed aquatic species at risk, like Athabasca Rainbow Trout, a project must meet certain pre-conditions, including that it will not jeopardize the survival and recovery of a listed species. The recovery strategies and action plans should be the basis for this assessment.</p> <ul style="list-style-type: none"> - Recovery Strategy Template Federal Feasible (canada.ca) <p>Additional uncertainties related to impacts to fish and fish habitat that should be addressed include:</p> <ul style="list-style-type: none"> - Site specific impacts at each watercourse crossing, including quantification (e.g. area estimate) of affected habitat associated with watercourse crossings. - Description of potential impacts to aquatic species at risk, including downstream of the project area. The proponent should apply a conservative lens to this potential pathway of effect - Inclusion of traditional knowledge related to fish and fish habitat (where available) - Potential for the Project to contribute to cumulative effects to fish and fish habitat, and aquatic species at risk - Potential for the project to jeopardize survival and recovery of Athabasca Rainbow Trout, and affect Bull Trout – Western Arctic populations. 	<p>also require monitoring of project impacts and effectiveness of mitigation. These conditions would be legally binding.</p> <p>To further understand impacts of the project on fish and fish habitat the proponent should undertake the following, as per the TISG template:</p> <ol style="list-style-type: none"> 3) Prepare a list of all waterbodies and watercourses (permanent and intermittent) that may be directly or indirectly affected by the project and provide: <ul style="list-style-type: none"> - type of water body or watercourse; - size and depths of the waterbody or watercourse - streamflow types and characteristics; - substrate type, vegetation and anthropogenic barriers to fish; - description of any proposed water work; - for each crossing, describe the anticipated method of crossing (trenched or trenchless). 4) Provide a more detailed map of waterbodies/courses that will be directly impacted by the project footprint. 5) Select an appropriate study design with the ability to detect changes in fish and fish habitat throughout the duration of the Project (e.g., baseline data collection, monitoring). 6) Provide a list of fish species likely to be present in each watercourse, including aquatic species at risk, and provide the location and description of suitable or potential habitat for these species (residence and critical habitat) in or near the project study area <ul style="list-style-type: none"> - Characterize the fish-bearing status of a watercourse (e.g., occupancy), in particular in habitat suspected of being fishless, using sufficient lines of evidence. 7) Provide a habitat use or suitability evaluation for fish present and habitat function (e.g. spawning, nursery, growth, prey, invertebrate population, food availability, foraging, migration, cover habitat, thermal and overwintering habitat, etc.) and sensitive times for these activities 8) Describe the extent of riparian disturbances associated with construction within 30 m of each watercourse. 9) Consider cumulative effects 10) Develop site specific mitigation measures that detail the conditions on which crossings of watercourses and riparian areas would be restored and maintained after construction of the project. 11) Following the development of site specific mitigation measures, evaluate any residual impacts to fish and fish habitat. 12) Identify and describe the data sources used, including information on data collection (e.g. gear and catch methods, location of sampling stations, date of catches, date of surveys, species surveyed, size and life cycle stage, catch per unit effort). It is recommended that the information be presented in the form of tables 13) Provide a summary of existing studies and research on potential effects of noise and vibrations on potentially affected aquatic species, including behavioural impacts in a freshwater environment 14) Continue engagement with Indigenous communities and include traditional knowledge when evaluating watercourses for fish and fish habitat. 	
DFO-02	Fish and Fish Habitat including species at risk	<p>Change in flow – the potential for the project to cause the harmful alteration of fish and fish habitat, including impacts to aquatic species at risk and their residences and critical habitat.</p> <p>A multitude of activities have the potential to cause negative environmental impacts through changes (loss or change in timing) of flow: redirection of surface flow for water management, redirection of current surface water features upstream of the project, and groundwater drawdown.</p>	<p>To further understand impacts of the project on fish and fish habitat, and aquatic species at risk, the proponent should:</p> <ol style="list-style-type: none"> 1. Evaluate potential groundwater recharge areas and impacts caused by the project. While DFO does not possess this expertise, other Departments can advise on the appropriateness of the proponent's approach to hydrogeological and hydrological assessments and whether it is an appropriate scale and resolution to detect changes in fish and fish habitat. 	<p>There is the potential for groundwater drawdown as a result of groundwater taking activities. At this time, an assessment of the potential zone-of-impact, and effects on fish and fish habitat, and aquatic species at risk is unknown. Additional assessments, including mapping</p>

		<p>The project could result in the harmful alteration of fish habitat, or effects to aquatic species at risk, through a change in groundwater flows associated with groundwater taking resulting in direct and indirect, negative impacts to fish and fish habitat, and aquatic species at risk. Changes in groundwater flows may impact recharge zones found in streams within the zone of influence. A flow reduction has the potential to remove water from small streams that rely on groundwater to maintain flow. Additionally, Athabasca Rainbow Trout and Bull Trout have been found to spawn in streams with groundwater upwelling, and rely on groundwater to maintain preferred water temperatures.</p> <p>DFO has standard mitigation measures posted on its projects near water website: Measures to protect fish and fish habitat (dfo-mpo.gc.ca). Additional analysis typically leads to the generation of site-specific measures in addition to standard measures. A flow specific guidance document for the assessment of impacts of flow changes on aquatic ecology can be found here: Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada (dfo-mpo.gc.ca)</p> <p>Information related to offsetting and issuance of <i>Fisheries Act</i> Authorizations and SARA permit DFO-01 also applies here.</p>	<ol style="list-style-type: none"> 2. Provide a map of waterbodies/courses that may be indirectly impacted by changes in flow, using a zone-of-impact approach from both surface and groundwater impacts. 3. Consider cumulative effects 4. Following the development of site specific mitigation measures, evaluate any residual impacts to fish and fish habitat, and aquatic species at risk. 	<p>detail and a zone-of-impact approach would help define the scope and scale of the impacts to fish and fish habitat, and aquatic species at risk, as a result of groundwater drawdown and subsequent changes in flow resulting from the project. This, along with the application of avoidance and mitigation, will need to be provided to determine if residual effects may occur that would result in prohibited effects under the <i>Fisheries Act</i> and/or <i>Species at Risk Act</i> that would require authorization.</p>
--	--	---	---	---

Please insert additional rows as necessary.

Table 2. Clarifications or additional information the Proponent could include in the Detailed Project Description or in the response to Summary of Issues

Comment ID	Relevant section of the Initial Project Description	Description of Issue, Concern or Uncertainty	Clarification or additional information	Plain language summary for inclusion in Summary of Issues
<p>Please identify comments by organization and comment number.</p> <p>e.g.: IAAC-01</p>	<p>If the comment is related to a specific section of the Initial Project Description, please provide a reference.</p> <p>You may also choose to copy the relevant text here.</p>	<p>Provide a description of the issue, concern or uncertainty the proponent could address in their detailed project description that would give confidence that the issue will be addressed and managed, or which could aid in tailoring the Guidelines</p>	<p>Provide recommended clarification or additional information to be included in the Detailed Project Description to address the issue, concern or uncertainty, for example</p> <ul style="list-style-type: none"> • Clarifications to project description (e.g. components, activities, locations or alternatives); • Project design changes that could avoid effects; • Evidence that could be presented to demonstrate there is no effect pathway or that effects will be negligible; • Evidence that standard mitigations will address potential effects; • Commitments the proponent could make to respond to the issue, including the implementation of federal operational policies or guidance documents. 	<p>For issues to be included in the Summary of Issues, provide a concise, plain language synopsis of the issue and of the question or direction for the proponent.</p>
DFO-01	19.3 – Acoustic Environment	The proponent has not addressed potential impacts to fish and fish habitat, and aquatic species at risk, caused by noise, particularly by drilling.	<p>DFO suggests identifying any impacts that noise may have on fish and fish habitat, and aquatic species at risk.</p> <ol style="list-style-type: none"> 1. Provide a summary of existing studies and research on potential effects of noise and vibrations on potentially affected aquatic species, including behavioural impacts in a freshwater environment 	The proponent has started identifying potential impacts of noise but should identify how this may impact fish and fish habitat, and aquatic species at risk.

Please insert additional rows as necessary.