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Vancouver, BC V6C 3S4

AUG 20 2014
2014

Your file Votre référence

Our file Notre référence
14-HPAC- 00430

Mr. Mike Squire
Arrowsmith Water Service
P.O. Box 1390
Parksville, BC V9P 2H3

Dear Mr. Squire:

Subject: Proposal likely to result in serious harm to fish. DFO authorization required.

The Fisheries Protection Program of Fisheries and Oceans Canada (DFO) received your proposal on 30 April 2014. Please refer to the file number and title below:

DFO File No.: **14-HPAC- 00430**

Title: **Englishman River Water Withdrawal Project, Parksville**

Your proposal has been reviewed to determine whether it is likely to result in serious harm to fish, which is prohibited under subsection 35(1) of the *Fisheries Act*.

Our review consisted of:

- Project Notification and Review Application Form, dated 30 April, 2014
- Aquatic Effects Assessment Report prepared by LGL Ltd, dated April 22, 2014
- Preliminary Design Drawings of Proposed Municipal Water Supply Intake prepared by CH2Mhill dated 2013/12/10

We understand that you propose to:

- Construct a temporary coffer dam and stream diversion to isolate works from stream flow during construction of an intake weir and intake structure
- Construct a 0.5 m high intake weir to a rock outcrop ~10 m across Englishman River, fitted with an inflatable weir crest
- Construct a water intake structure on the right bank of Englishman River fitted with 10 m wide inclined wedge wire screen with 2.54 mm spacing
- Construct a raw water pumping station with a capacity of 48 ML/day (0.55 m³/s), which equates to 34% of the 1.6 m³/s currently required by a Provisional Operating Rule for releases from the Arrowsmith reservoir to be delivered to reaches >2 km downstream of the proposed extraction site.

- Withdraw up to 0.55 m³/s (instantaneous) flows for municipal water consumption for up to a maximum average daily withdrawal in July of 24 ML/day (24-hr average of 0.27 m³/s) at current demand. As demand increases, withdrawal would increase up to the full licenced capacity (0.55 m³/s) continuously.

Based on the above information, DFO has concluded that your proposal is likely to result in serious harm to fish (as follows), which is prohibited under subsection 35(1) of the *Fisheries Act*:

- permanent alteration of fish habitat that supports various salmon and trout life history stages due to the reduction of flow in the Englishman River from instantaneous water withdrawal;
- death of salmon, trout and char through impingement on the 2.54 mm slotted intake screen;
- death of salmon, trout and char through fish stranding downstream of the intake during instantaneous increases in water withdrawal rates to meet varying hourly water demand;
- seasonal obstruction by the intake weir blocking upstream migration of salmon, trout and char during low flows;

In order to be in compliance with the above legislation you must obtain an authorization from DFO pursuant to paragraph 35(2)(b) of the *Fisheries Act*.

Should you choose to proceed with your proposal, please complete the Application for Authorization under Paragraph 35(2)(b) of the *Fisheries Act* Form (<http://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/index-eng.html>).

Please note that the Englishman River supports significant fisheries that would be placed at risk by your project. Prior to making any decision to authorize a project, DFO must consider whether there are measures to avoid, mitigate or offset serious harm to fish that are part of a fishery. Consistent with our Fisheries Protection Policy Statement (2013), we note that efforts should be made to prevent (avoid) impacts first. We also note that it may be possible to relocate or redesign your proposal and implement measures that could reduce the impacts of your proposal to a level where an authorization would no longer be required. To this end, DFO recommends that your plans include a detailed assessment of the following:

- minimum Instream Flow Releases (IFR) downstream of the intake that would avoid harm to habitat for the various fish life history stages which are dependent on this downstream reach. The IFR should be based on “instantaneous” withdrawal rates rather than daily average withdrawal rates to better reflect the level of harm. Please refer to the document “Assessment methods for aquatic habitat and instream flow characteristics in support of applications to dam, divert, or extract water from streams in British Columbia” (2004) at: http://www.env.gov.bc.ca/wld/documents/bmp/assessment_methods_instreamflow_in_bc.pdf

- measures to mitigate the risk of fish impingement on the intake screen by high flow velocities;
- alternative water withdrawal techniques that do not involve direct/screened withdrawal from the river;
- incorporation of a fishway into the intake structure to allow for upstream and downstream fish passage around the weir;
- flow ramping procedures to avoid killing or stranding of fish in areas downstream of the intake during operational changes to flow withdrawal;
- relocating the intake site to minimize the length of downstream fish habitat affected by the diversion;
- long-term monitoring to confirm the effectiveness of mitigation strategies (e.g. IFR, flow ramping) in avoiding serious harm to fish. Please refer to the document "Long term aquatic monitoring protocols for new and upgraded hydroelectric projects" (2013) at: <http://www.dfo-mpo.gc.ca/library/348883.pdf>

Please be advised that any unauthorized work, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or supports such a fishery that would result from proceeding with your proposal without first obtaining a *Fisheries Act* authorization could lead to corrective action such as enforcement. It is also your *Duty to Notify* DFO if you have caused, or about to cause, serious harm to fish that are part of or support a commercial, recreational or Aboriginal fishery. Such notifications should be directed to (<http://www.dfo-mpo.gc.ca/pnw-ppe/violation-infraction/index-eng.html>).

If you have any questions, please contact Herb Klassen at our Vancouver office at (604-666-9126), by fax at (604-666-0417), or by email at (Herb.Klassen@dfo-mpo.gc.ca). Please refer to the file number referenced above when corresponding with DFO.

Yours sincerely,



Brad Fanos,
Regional Manager, Fisheries Protection Program

cc. Herb Klassen (DFO)