

## UPPER TOBA VALLEY HYDROELECTRIC PROJECT AMENDMENT #2 SUMMARY

### Amendment Application for Environmental Assessment Certificate #E09-02

#### A. ISSUE

A decision is required from the Assistant Deputy Minister on a request by Upper Toba Hydro Inc. (Certificate Holder) under Section 19(3) of the *Environmental Assessment Act* to amend the Environmental Assessment Certificate for the Upper Toba Valley Hydroelectric Project to remove the third water return outlet on the Left Main Branch of Jimmie Creek.

#### Description of Outlet Design Change

Jimmie Creek is part of the Toba River system and splits into three distributaries upstream of the powerhouse location on its way to the Upper Toba River. These three bedrock channels (Jimmie North Branch, Jimmie Right Branch, and Jimmie Left Branch) are steep and include waterfalls that are a barrier to fish passage.

The Certificate Holder proposes to change the design to remove the outlet emptying into the left branch of Jimmie Creek resulting in two outlets emptying into the north branch and right branch of Jimmie Creek. Details of the proposed design change are presented in Appendix 1.

#### B. BACKGROUND:

- On March 31, 2009, the Certificate Holder was issued Environmental Assessment Certificate #E09-02 (Certificate), under the *Environmental Assessment Act*.
- The Upper Toba Valley Hydroelectric Project (Project) consists of three run-of-river hydroelectric facilities (Upper Toba River, Dalgleish Creek, and Jimmie Creek) all located at the head of Toba Inlet approximately 100 kilometres (km) north of the City of Powell River.
- The Jimmie Creek hydroelectric facility is currently under construction with a scheduled completion date of June 2016.
- Amendment #1 was issued on October 1, 2013, which allowed relocation of the Jimmie Creek powerhouse and minor changes which included creating three outlets to return water to the three branches of Jimmie Creek: the North Branch, the Main Right Branch, and the Main Left Branch.
- On August 14, 2015, the Certificate Holder applied under Section 19(1) of the *Environmental Assessment Act* for an amendment to the Certificate to remove the third outlet on Jimmie Creek that empties into the Main Left Branch, which was previously included in Amendment #1 (see Appendix 1 Figures 1 and 2).
- The amendment application included:
  - A technical report: *Serious Harm Impact Assessment for the Proposed Exclusion of Jimmie Creek Left Branch Tailrace*;

- An August 6, 2015, letter from Klahoose First Nation indicating support for the proposed changes (letter attached as Appendix 2); and
  - An August 4, 2015, letter from the Office of the Comptroller of Water Rights confirming the proposed design changes to the Jimmie Creek outlet would not adversely impact the environment or the performance of the Project (letter attached as Appendix 3).
- The removal of the third outlet would mitigate newly identified environmental risks associated with construction at the left branch of main channel of Jimmie Creek including temporary risk of rock failure during blasting, sediment and erosion, and flow alternation/disruption. Long-term adverse effects on visual quality and vegetation, including clearing of some old growth would also purportedly be reduced.
  - The impact assessment report of fish and fish habitat in the amendment application indicated that the design changes are unlikely to result in negative operational impacts.

## **C. DISCUSSION**

### Amendment Review Process

After a preliminary assessment of the technical issues, public and First Nations interests related to the current amendment application, the Environmental Assessment Office (EAO) determined that the proposed amendments were relatively minor and proposed an amendment process that included forwarding the amendment for review and comment to agencies and First Nations involved in the 2013 amendment that originally approved the three outlets. No public consultation was proposed due to the remote location and the minor nature of the amendment.

During the amendment process, comments were received from Forest, Lands and Natural Resource Operations (FLNR) related to potential operational effects to fish and fish habitat associated with the proposed change and also related to the recommendations in the Certificate Holder's technical report to include monitoring associated with the outlet design change. As part of the amendment package, EAO was provided with an August 4, 2015, letter from the Office of the Comptroller of Water Rights confirming the proposed change to the design of the Jimmie Creek outlet would not adversely impact the environment or the performance of the Project (letter attached as Appendix 3).

### First Nations

The Project is within the asserted traditional territory of Klahoose First Nation and the Nanwakolas Council. As a result, the amendment application was sent to the Klahoose First Nation and Nanwakolas Council for review and comment. No comments were received though the Nanwakolas Council did request, and subsequently received, a shape file for the Project.

Consideration of Potential Significant Adverse Effects and Practical Means for Preventing and Reducing Effects

Jimmie Creek flows into Toba River via three branches which support fish habitat up to a set of natural barrier falls located approximately 0.3 km upstream from confluence at the Toba River. The Jimmie Creek powerhouse is located on a previously disturbed transmission line right-of-way on the north shore of Jimmie Creek, immediately upstream of the fish barrier. As considered in Amendment #1, water from the powerhouse would be returned to each of the branches of Jimmie Creek via three separate outlet pipes, which was proposed as a design mitigation in order to reduce any potential adverse impacts arising from reduced instream flows to downstream Coho fish habitat during operations.

In support of the proposed amendment, the Certificate Holder provided EAO with a 2015 report: *Serious Harm Impact Assessment for the Proposed Exclusion of Jimmie Creek Left Branch Tailrace* by SNC-Lavalin (SNC report). The SNC report indicated that the exclusion of the outlet and reduced operational flow reductions in the Left Main Branch of Jimmie Creek would not likely result in serious harm to fish based on habitat suitability modelling. The report also indicated that the proposed design change would not likely result in a change in the habitat suitability or value of spawning, overwintering, and rearing habitat in either the Right or Left Main Branch of Jimmie Creek due to alterations in flow. The SNC report authors provided recommendations for the Certificate Holder to conduct operational flow monitoring of Jimmie Main Branch, including both the left and right distributaries in order to validate the outputs of the hydraulic model and confirm the fish habitat is maintained and functions at key seasonal flows.

In response to FLNR comments and the recommendations in the SNC report, the Certificate Holder and FLNR agreed that the additional adaptive monitoring recommendations specific to the proposed changes to the Jimmie Creek outlet will be integrated into the next iteration of the Hydrology and Aquatic Life Monitoring Plan. It is a requirement of the current Certificate that the Certificate Holder develop the Hydrology and Aquatic Life Monitoring Plan for final review and approval by the Ecosystem Branch of FLNR.

During the amendment process, EAO suggested that the proposed amendment include some simple administrative updates to the Certificate wording. The Proponent is amenable to the changes proposed in Appendix 4.

#### **D. CONCLUSION**

EAO concluded that in considering all the relevant information contained in the amendment application, comments provided by FLNR and the willingness of the Certificate Holder to amend the Hydrology and Aquatic Life Monitoring Plan in response to comments received, EAO is satisfied that the proposed amendment to remove the third outlet on the Left Main Branch of Jimmie Creek would not result in any significant adverse effects.

EAO also took into consideration the following conditions and existing mitigations in reaching the conclusion of no significant adverse effects:

- The area below the falls that provide a natural fish barrier of the Left Main Branch of Jimmie Creek provides limited spawning gravels, deep pools and off-channel habitat to support the development of important life stages of fish (e.g., rearing, spawning and overwintering);
- The Water Licence issued for the Project has an approved minimum Instream Flow Requirement (IFR) of 0.67 m<sup>3</sup>/s, in order to maintain fisheries habitat values and the facility would not be operational during flows lower than 1.02m<sup>3</sup>/s (minimum operational flow plus minimum IFR);
- The Certificate requires the Certificate Holder to develop and implement a ramping rate study methodology and protocol acceptable to FLNR; and
- The Certificate requires the Certificate Holder to develop a Hydrology and Aquatic Life Monitoring Plan to the satisfaction of FLNR, which will include additional adaptive monitoring requirements specific to the proposed design changes to the Jimmie Creek outlet.

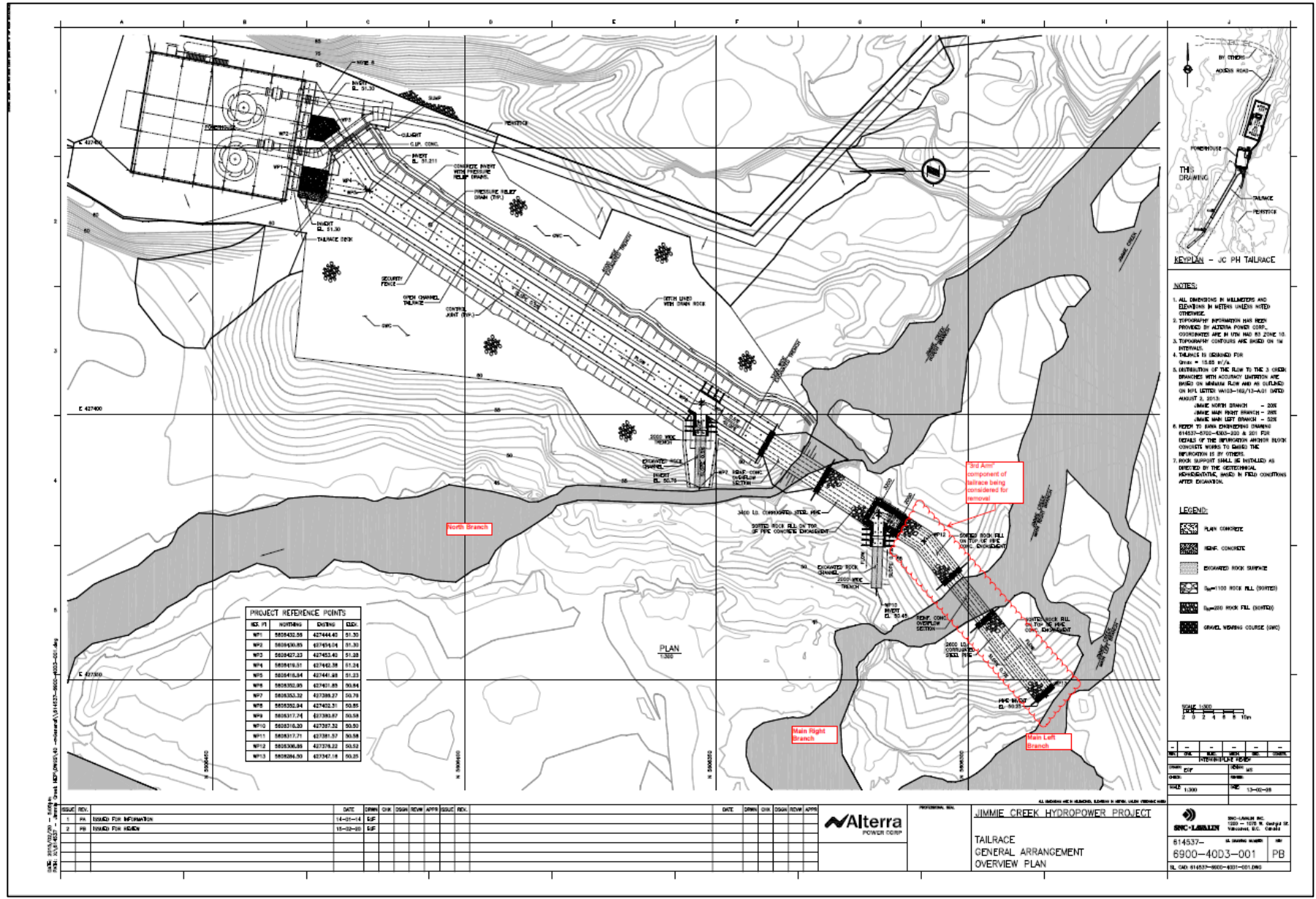
EAO concludes that the process for consultation has been carried out in good faith and that it was appropriate and reasonable in the circumstances. EAO has made reasonable efforts to inform itself of the impacts the proposed amendment may have on Klahoose First Nation and the Nanwakolas Council interests.

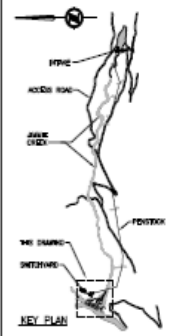
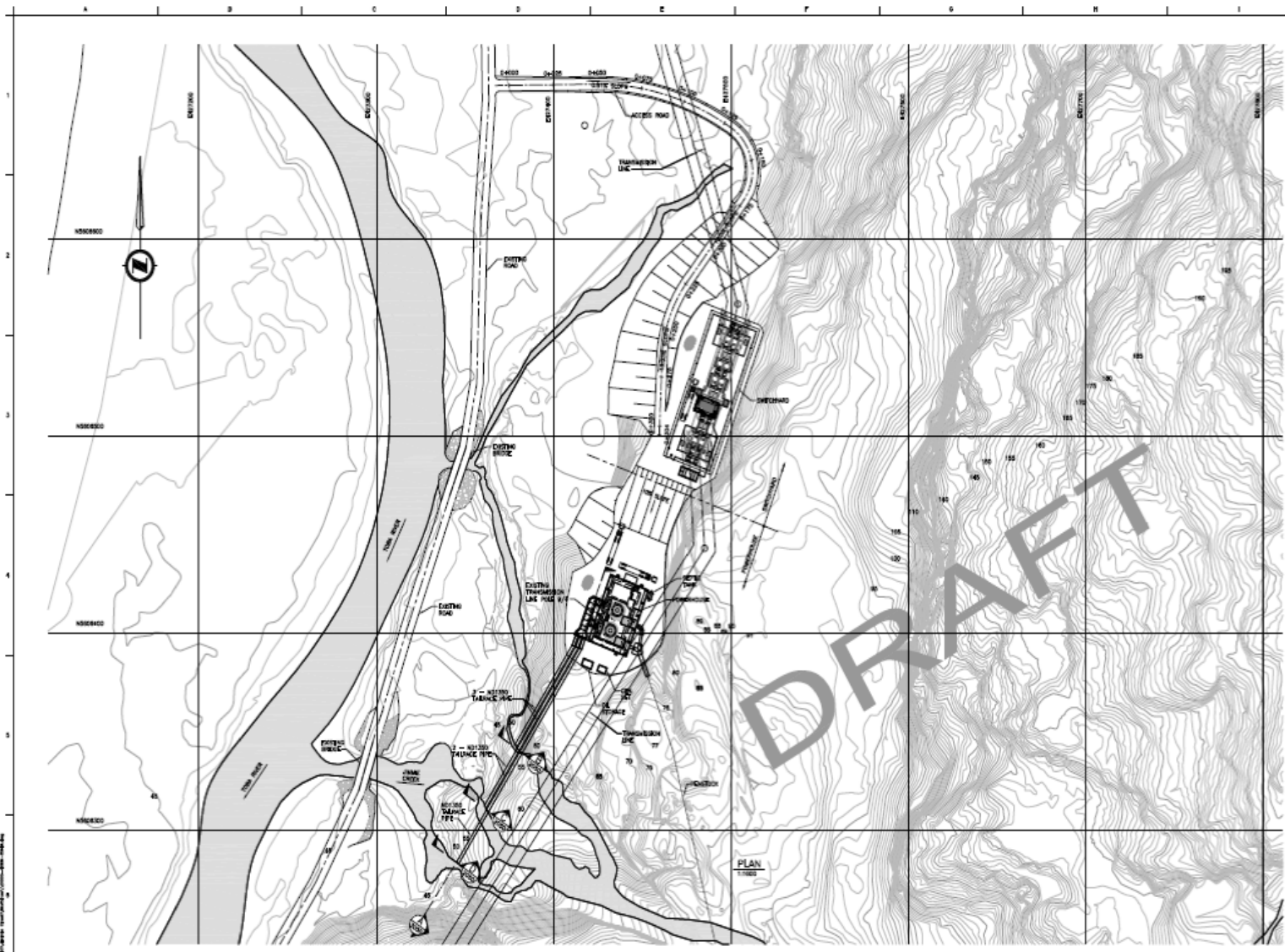
If the Certificate is amended to allow for the removal of the third outlet on Jimmie Creek as described above, it is also suggested that the amendment include removal of the outdated wording in the Certificate described in Appendix #4.

## **E. Appendices**

- Appendix 1: Figures 1 & 2 Depicting Proposed Project Design Changes
- Appendix 2: August 6, 2015, Support Letter from Klahoose First Nation
- Appendix 3: August 4, 2015, Letter from the Office of the Comptroller of Water Rights
- Appendix 4: Recommended updates to Certificate Conditions – administrative and legal updates

# Appendix 1: Figures 1 & 2 Depicting the Proposed Project Design Changes





- GENERAL NOTES:**
1. ALL DIMENSIONS AND LEVELS OF PRIMARY AND ALL TO BE SHOWN DURING THE PERIOD OF CONSTRUCTION.
  2. ALL DIMENSIONS IN ALLIGATED AND CLAYSTONE IS NOTED UNLESS NOTED OTHERWISE.
  3. CONCRETE STRENGTH = 30MPA.
  4. TOPOGRAPHY DERIVED FROM 1:40,000 CONTOUR.

**LEGEND:**

DRIVE WAYWAY COURSE

PRELIMINARY FOR INFORMATION ONLY

NOT FOR CONSTRUCTION



DATE	13-04-20
BY	13-04-20
CHECKED	13-04-20
SCALE	AS NOTED

NO.	REV.	DATE	BY	CHKD.	APP.	DESCRIPTION
1	A	13-04-20	DIF			ISSUED FOR INFORMATION



UPPER TORA VALLEY HYDROELECTRIC PROJECT  
 JIMMIE CREEK HEP  
 POWERHOUSE  
 GENERAL ARRANGEMENT  
 OVERVIEW

NO. 2 DAM  
 510743-0000-40DK-2049 A  
 13-04-20

**Appendix 2: August 6, 2015 Support Letter from Klahoose First Nation**



**KLAHOOSE FIRST NATION**

August 6, 2015

Monica Perry  
Executive Project Director  
Environmental Assessment Office  
PO Box 9426 Stn Prov Gov't  
Victoria, BC V8W 9V1

Dear Monica,

**Re: Application for Amendment to EAC #E09-01 - Changes to the Design of the Tailrace for the Jimmie Creek Hydroelectric Facility**

This letter is to advise the BC Environmental Assessment Office that the Klahoose First Nation has reviewed information related to a recent amendment application submitted to the EAO by Upper Toba Hydro Inc. (UTHI) to amend EAC #E09-02.

The Klahoose have been kept informed of the progress of the project including the change of the tailrace from three to two branches.

The Klahoose First Nation supports the proposed changes in this amendment application.

Sincerely,

A handwritten signature in blue ink that reads "Kathy Francis".

Kathy Francis, Councillor  
Klahoose First Nation

**Appendix 3: August 4, 2015, Letter from the Office of the Comptroller of Water Rights**



August 4, 2015

File: 2002874

Mr. Mac Lowry  
Environment Manager  
Upper Toba Hydro Inc.  
Suite 600 - 888 Dunsmuir St  
Vancouver BC V8C 3K4

Dear Mr. Lowry:

**Re: Jimmie Creek Generating Station - Tailrace Design Revision**

This letter serves to confirm that the Office of the Comptroller of Water Rights ("Office") has reviewed the proposed change in tailrace design of the Jimmy Creek Hydroelectric Project.<sup>1</sup> The Office has also received comments from agency staff and the Independent Engineer. The Office is satisfied that there are no outstanding issues that need to be addressed at this time and that the change in design would not adversely impact the environment or project performance. A remaining concern on ramping compliance in the three channels (Jimmy Creel North Branch and Jimmy Creek Main Right and Left Branch) at different flow rates will be resolved during commissioning. The water licence and plat do not specify the tailrace (works) at a level that would require amendment.

Yours truly,

KT Shum, P.Eng.  
Water Act Engineer

pc (by email): Karen McGhee, Independent Engineer  
Cedric Robert, Independent Environmental Monitor  
Remko Rosenboom, Manager Water Authorizations, South Coast Region

<sup>1</sup> The proposed design is described in engineering drawings 614537-6900-40D3-001 through -005, dated April 17, 2015. Assessment of fishery impacts is provided in *Serious Harm Impact Assessment – Proposed Exclusion of Jimmie Creek Left Branch Tailrace*, report dated June 19, 2015. The assessment report and engineering drawings are prepared by SNC-Lavalin.

<b>Ministry of Forests, Lands and Natural Resource Operations</b>  Resource Stewardship Division	Water Management Branch Licensing and Allocation Section	Mailing Address: PO Box 9340 Stn Prov Govt Victoria BC V8W 9M1 Telephone: 250-387-7204 Facsimile: 250-356-0605	Location: 3 <sup>rd</sup> Floor, 395 Waterfront Cres Victoria BC V8T 5K7
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**Appendix 4: Recommended updates to Certificate Conditions – administrative and legal updates**

1. Striking out “MOE-Environmental Protection Division” wherever it appears in Schedule B of the Certificate and replacing it with “FLNR – Ecosystems”;
2. Striking out “Integrated Lands Management Bureau” wherever it appears in Schedule B of the Certificate and replacing it with “Ministry of Forests, Lands and Natural Resource Operations”;
3. Striking out “Ministry of Tourism, Culture and Arts” wherever it appears in Schedule B of the Certificate and replacing it with “Ministry of Community, Sport and Cultural Development”;
4. Striking out “Proponent” wherever it appears in the Certificate, including Schedule A and Schedule B and replacing it with “Holder”;
5. In Condition #1, striking out “The Proponent must cause the Project to be designed” and replacing it with “The Project must be designed”;
6. Add the following defined term at the end of the conditions:

In this certificate “Holder” means the Proponent or, if the Certificate has been transferred, the person to whom the Certificate has been transferred in accordance with the Certificate.

**Appendix 5: draft Certificate Amendment #2 (next page)**

**IN THE MATTER OF  
THE *ENVIRONMENTAL ASSESSMENT ACT*, S.B.C. 2002, c. 43 (Act)**

**AND**

**IN THE MATTER OF  
ENVIRONMENTAL ASSESSMENT CERTIFICATE #E09-02  
HELD BY UPPER TOBA HYDRO INC.  
FOR THE UPPER TOBA VALLEY PROJECT (Project)**

**AMENDMENT #2 TO  
ENVIRONMENTAL ASSESSMENT CERTIFICATE #E09-02**

**WHEREAS:**

- A. On March 31, 2009, Upper Toba Hydro Inc. (Holder) was issued Certificate #E09-02 (Certificate) respecting the Project;
- B. On October 1, 2013, Amendment #1 permitted the relocation of the Jimmie Creek hydroelectric facility powerhouse and minor changes to the design and location of the tailrace, switchyard, lower penstock alignment, transmission line interconnection and powerhouse access road;
- C. On August 14, 2015, the Holder applied for an amendment to the Certificate to remove the third tailrace on Jimmie Creek that empties into the Main Left Branch, which was previously included in Amendment #1; and
- D. The Executive Director has delegated his power under Section 19(3) and (4) of the Act to the undersigned, and the undersigned has considered the application.

**NOW THEREFORE:**

I order that the Certificate is amended as follows:

- 1. The following is added to Schedule A:

August 14, 2015, letter from Mac Lowry, Upper Toba Hydro Inc., to Monica Perry, BC Environmental Assessment Office, entitled "Changes to the Design of the Tailrace for the Jimmie Creek Hydroelectric Facility: Application for Amendment to EAC #09-02."

- 2. The following administrative changes are applied to the Certificate Conditions:

3. Striking out “MOE-Environmental Protection Division” wherever it appears in Schedule B of the Certificate and replacing it with “FLNR – Ecosystems”;
4. Striking out “Integrated Lands Management Bureau” wherever it appears in Schedule B of the Certificate and replacing it with “Ministry of Forests, Lands and Natural Resource Operations”;
5. Striking out “Ministry of Tourism, Culture and Arts” wherever it appears in Schedule B of the Certificate and replacing it with “Ministry of Community, Sport and Cultural Development”;
6. Striking out “Proponent” wherever it appears in the Certificate, including Schedule A and Schedule B and replacing it with “Holder”;
7. In Condition #1, striking out “The Proponent must cause the Project to be designed” and replacing it with “The Project must be designed”;
8. Add the following defined term at the end of the Conditions:

In this “Certificate Holder” means the Proponent or, if the Certificate has been transferred, the person to whom the Certificate has been transferred in accordance with the Certificate.



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Michelle Carr  
Assistant Deputy Minister, Environmental Assessment Operations

Issued November 6, 2015