

Fosthall Creek Hydro Project

Interconnection Facilities Study And Project Plan

Report No. TGI-2016-I115-FS-RO.

January 9, 2017

British Columbia Hydro and Power Authority © British Columbia Hydro and Power Authority 2016. All rights reserved.

DISCLAIMER OF WARRANTY, LIMITATION OF LIABILITY

This report was prepared by the British Columbia Hydro And Power Authority ("BCH") or, as the case may be, on behalf of BCH by persons or entities including, without limitation, persons or entities who are or were employees, agents, consultants, contractors, subcontractors, professional advisers or representatives of, or to, BCH (individually and collectively, "BCH Personnel").

This report is to be read in the context of the methodology, procedures and techniques used, BCH's or BCH's Personnel's assumptions, and the circumstances and constraints under which BCH's mandate to prepare this report was performed. This report is written solely for the purpose expressly stated in this report, and for the sole and exclusive benefit of the person or entity who directly engaged BCH to prepare this report. Accordingly, this report is suitable only for such purpose, and is subject to any changes arising after the date of this report. This report is meant to be read as a whole, and accordingly no section or part of it should be read or relied upon out of context.

Unless otherwise expressly agreed by BCH:

- any assumption, data or information (whether embodied in tangible or electronic form) supplied by, or gathered from, any source (including, without limitation, any consultant, contractor or subcontractor, testing laboratory and equipment suppliers, etc.) upon which BCH's opinion or conclusion as set out in this report is based (individually and collectively, "Information") WCH not been verified by BCH or BCH's Personnel; BCH makes no representation as to its accuracy or completeness and disclaims all liability with respect to the Information;
- 2. except as expressly set out in this report, all terms, conditions, warranties, representations and statements (whether express, implied, written, oral, collateral, statutory or otherwise) are excluded to the maximum extent permitted by law and, to the extent they cannot be excluded, BCH disclaims all liability in relation to them to the maximum extent permitted by law;
- 3. BCH does not represent or warrant the accuracy, completeness, merchantability, fitness for purpose or usefulness of this report, or any information contained in this report, for use or consideration by any person or entity. In addition BCH does not accept any liability arising out of reliance by a person or entity on this report, or any information contained in this report, or for any errors or omissions in this report. Any use, reliance or publication by any person or entity of this report or any part of it is at their own risk; and
- 4. In no event will BCH or BCH's Personnel be liable to any recipient of this report for any damage, loss, cost, expense, injury or other liability that arises out of or in connection with this report including, without limitation, any indirect, special, incidental, punitive or consequential loss, liability or damage of any kind.

COPYRIGHT NOTICE

Copyright and all other intellectual property rights in, and to, this report are the property of, and are expressly reserved to, BCH. Without the prior written approval of BCH, no part of this report may be reproduced, used or distributed in any manner or form whatsoever.

PROJECT INFORMATION

Interconnection Customer (IC)	
Project Name	Fosthall Creek Hydro Project
Point of Interconnection (POI)	60L219 13 km north of Pingston (PIN) Station The current POI for the Pingston Project
BCH Proposed ISD	April 01 2019, based on SGIA signed and required security in place by September 30, 2017
IC Proposed COD	August 2019
Maximum Power Injection (MW)	15.0
Number of Generator Units	2
Plant Fuel	Hydro

EXECUTIVE SUMMARY

the Interconnection Customer (IC), is proposing to develop the Fosthall Creek hydro generating facility (FOS) to inject energy into the BC Hydro (BCH) system. The hydro project consists of two units with a total power capacity of 15.7 MW and is located on the west side of Upper Arrow Lake, south of Revelstoke, in the province of British Columbia.

The FOS hydro project will connect to the BCH system using TransAlta's existing interconnection facilities at Pingston Generating Station (PIN) and its official Point of Interconnection (POI) which is 13 km north of PIN on the 60L219 radial circuit, a location known as Shelter Bay. PIN is owned by TransAlta, an Independent Power Producer (IPP). The maximum power injection from FOS into the BCH system at the POI is 15.0 MW. The IC proposed Commercial Operation Date (COD) is August 2019.

To accommodate the interconnection of the Fosthall project, BC Hydro is required to increase the ratio of the existing CT at WHN to allow for the increased load current on 60L218 and 60L219 due to FOS injection, to replace the primary (PY) and standby (SY) protection at WHN for circuits 60L218 and 60L219 is required as the existing relays are not sensitive enough to adequately protect the two circuits and all the necessary control work required to provide telemetry, remote data access, and revision of alarms for replacement of 60L218 and 60L219 protection at WHN as well as the reconfiguration and updating of existing network models, databases, and displays to accommodate the addition of FOS station.

The cost estimate, +/- 20%, for the interconnection Network Upgrades required to interconnect the proposed project to the BCH Transmission System is \$1.190M. This cost estimate is based on meeting the IC proposed COD of August 2019. Any delay in the IC proposed COD may trigger a reassessment of the cost estimate.

The estimated time to construct the Network Upgrades required to interconnect the project to the BCH Transmission System is approximately 18 months. The attached project schedule provides greater details of the construction timelines.

Date	Description
March 01 2017 to Sept	BCH Project Deferral period
01 2017	
Sept 01 2017	Renew the project
Sept 30 2017	SGIA signed and required security in place
Dec 31 2017	Complete Review of BCH Project scope and budget
	estimate
Feb 31 2018	Full BCH Implementation Funding Released
Mar 01 2018	Restart all BCH Project work – commence construction
Fall 2018	All BCH Engineering design complete (PC, Revenue
	Metering and SCADA are anticipated).
Jan/ Feb 2019	BCH Equipment Installation
Mar 2019	BCH Test and Commission
August 2019	Declaration of Compatibility – Transmission Line, Load and
	First Sync anticipated.
April 01 2019	Target In-service Date
August 2019	IC Commercial Operation Date

In the BC Hydro tariff interconnection process, after the facilities study is complete and adopted, BC Hydro will tender a SGIA. Because the Fosthall project is connected to Transmission System through the existing Pingston POI, BC Hydro cannot tender a new SGIA but instead will work with the owner of the Pingston Project to revise the existing Pingston Project Transmission Interconnection Agreement dated 15 August 2002, subject to the willingness of the Pingston Project owner to do so. BC Hydro will not and cannot compel the Pingston Project to accommodate the Fosthall project.

TABLE OF CONTENTS

DISCLAIMER OF WARRANTY, LIMITATION OF LIABILITY	i
	ii
PROJECT INTERCONNECTION REQUIREMENTS	Section 1
PROJECT PLAN	Section 2

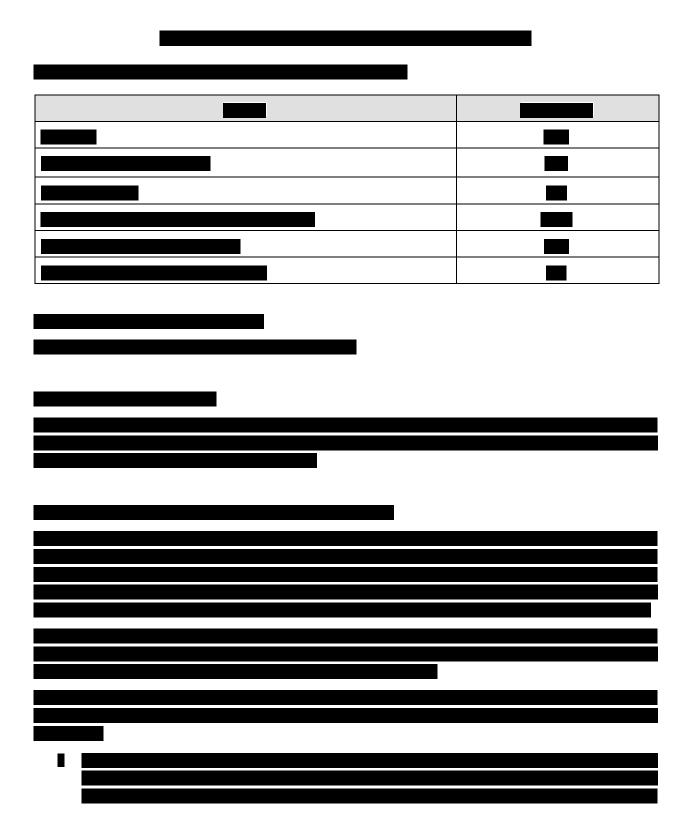


SECTION 1

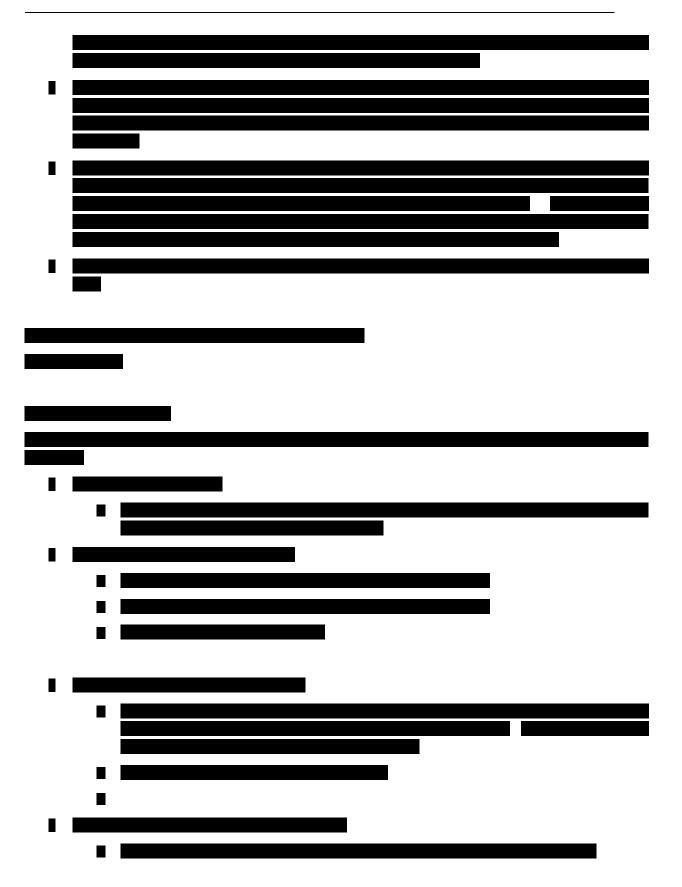
STANDARD GENERATOR INTERCONNECTION AGREEMENT (SGIA)

APPENDIX A – INTERCONNECTION FACILIITIES AND NETWORK UPGRADES

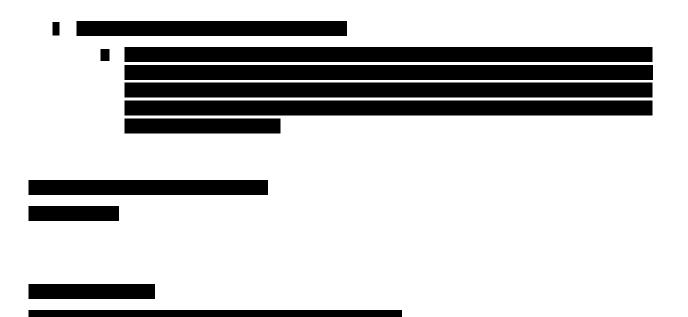




BC Hydro Power smart















SECTION 2

INTERCONNECTION FACILITIES STUDY

PROJECT PLAN



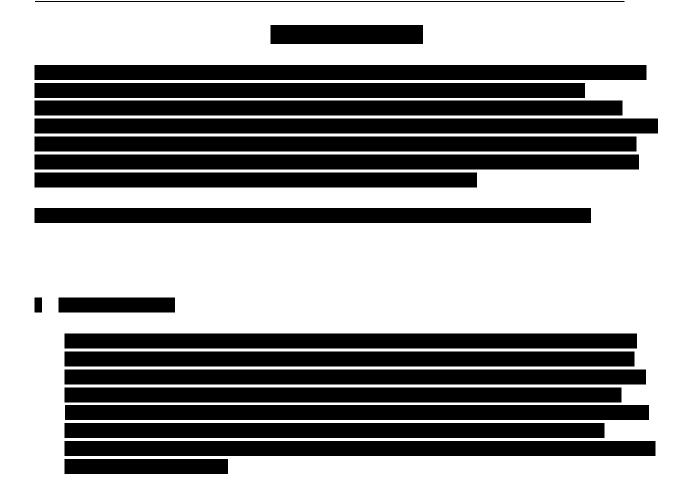




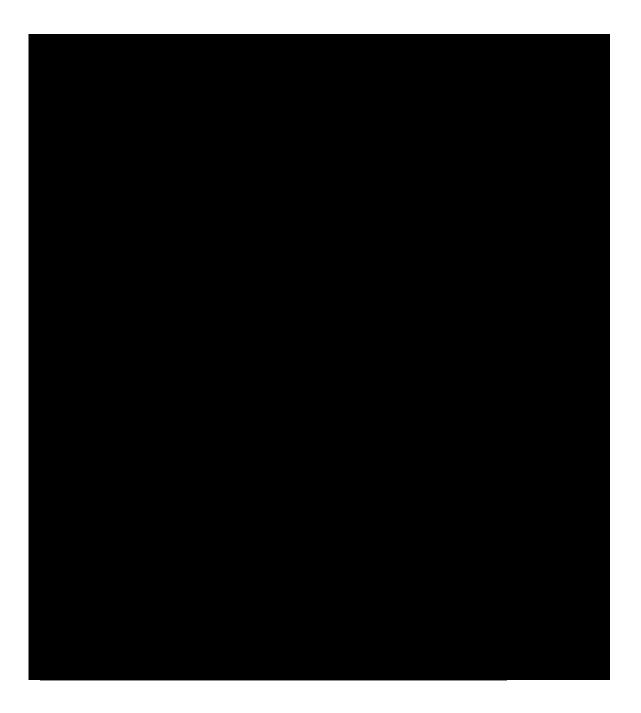




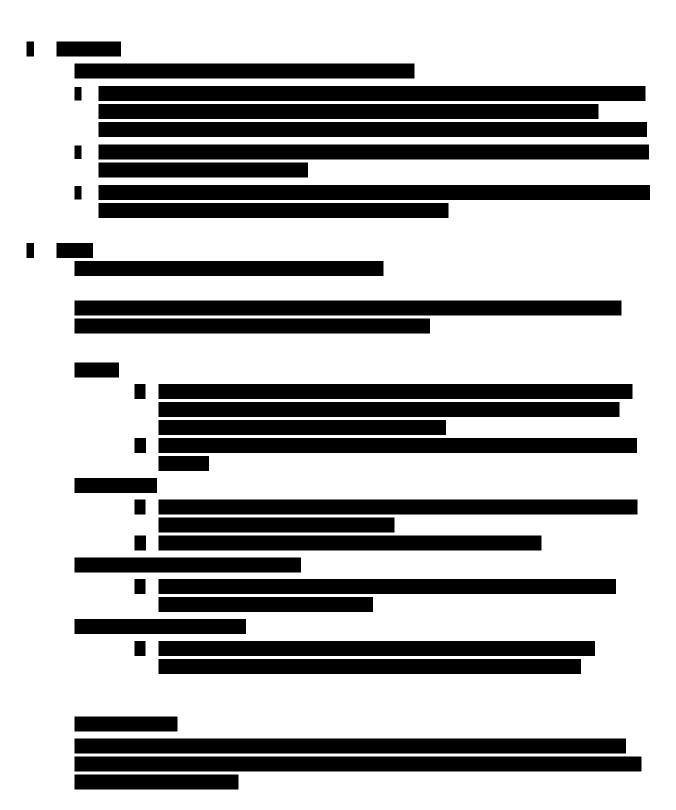


























_	



