



Narrows Inlet IPP Interconnection

Interconnection Facilities Study and Project Plan

Report No. TY-0841-01

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PROJECT INFORMATION

Interconnection Customer	[REDACTED]
Project Name	Narrows Inlet
Point of interconnection (POI)	Line 137, 5.5km from Malaspina Substation (MSA)
BCH Proposed ISD	Dec. 5, 2017
IC Proposed COD	Feb. 28, 2018
Maximum Power Injection (MW)	40MW
Number of Generator Units	5
Plant Fuel	Hydro

EXECUTIVE SUMMARY

[REDACTED] the Interconnection Customer (IC), proposes to develop the Narrows Inlet Project to deliver electric energy to BC Hydro (BCH). The project, located in the Sunshine Coast region, consists of four generating stations with a total five generators: Chickwat with two generators each 9.5 MW, Tyson Creek (about) 10 MW, Upper Ramona Creek 7.0 MW, and Lower Ramona Creek 7.0 MW. The IC will build a customer owned 26 km, 132 kV transmission line from their 132/25 kV collector station Narrows Inlet (NITX) and tap into BCH 132 kV circuit 1L37 at the Point of Interconnection (POI), approximately 5 km north from Malaspina Substation (MSA). The maximum power injection into the BCH system is 40 MW, and the proposed Commercial Operation Date (COD) is February 28, 2018.

To interconnect Narrows Inlet Project and its facilities to the BCH Transmission System through a tap point on 132 kV line 1L37, these modifications are required.:

- (1) A “T” connection on line 1L37 with three 138 kV disconnects will be created at the POI.
- (2) A direct transfer trip (DTT) scheme will be required to disconnect Narrows Inlet generation for MSA T1 or T5 outages.
- (3) To prevent overvoltages the no-fault opening of 1L37 at MSA will be delayed so that Narrows Inlet will be tripped before 1L37 opens.
- (4) The 1L37 line protection will be replaced by new relays. The IC is responsible to provide line protection at their NITX station for their 132 kV tap line to the POI.
- (5) An ADSS fibre optic line will be needed from NITX to MSA station via the POI. BCH will supply, install, and terminate the fibre optic portion between MSA and the POI. The IC will supply, install, and terminate the fibre optic portion between NITX and the POI.
- (6) Out-of-step protection will be required at the IC’s generators, provided by the IC.
- (7) Islanded operation will not be arranged. Power quality protection will be required to prevent/mitigate possible inadvertent islanded operation.
- (8) During outages of BCH’s 230 kV line 2L48 MSA to Saltery Bay (SAY) the line 1L37 MSA-SAY will be operated closed to provide the backup supply. In this operating

condition the Narrows Inlet generators will need to be disconnected from the BCH system.

- (9) Associated with the interconnection project there will be BCH protection, control, and telecommunication work in the related transmission lines, substations, and control centers.
- (10) The project will change the 25 kV POI for the existing generator at Tyson Creek (TYS) to the Narrows Inlet Project's POI. BCH will need to do removals and changes at the location of the present POI on Pender Harbour (PHR) feeder 25F53.
- (11) The non-binding good-faith cost estimate for Interconnection Network Upgrades required to interconnect the proposed project to BCH Transmission System is \$8.26 million, and the estimated time to complete the Interconnection Network Upgrades is 18 months after project approval.

The attached Project Schedule provides greater details of the construction timelines.

Date	Description
January 31, 2017	Expected approval Date
March 15, 2017	Procurement Activities Commence
July 31, 2017	Start Construction Work
December 5, 2017	BCH Project In-Service
February 28, 2018	IC COD

SECTION 1

SCHEDULE A – PROJECT INTERCONNECTION REQUIREMENTS (PIR)

To be included in the SGIA

SECTION 2
INTERCONNECTION FACILITIES STUDY
Project Plan

This section is redacted.