FortisBC Inc.
2016 Long Term Electric Resource Plan & Long Term Demand Side Management Plan

ICG Responses to FBC Information Requests (Exhibit B-20)

1. Reference: BC Hydro Transmission Project Incentives

BC Hydro's project guidelines state that "Projects should have a projected savings of at least 300 megawatt-hours annually".

   1.1. Please confirm that the project does not meet BC Hydro's threshold for incentive eligibility.

   RESPONSE: Not confirmed. The energy savings identified in Exhibit C7-4 represent the minimum expected energy savings for this project. In addition to energy savings for operation when the system is operating above 10% capacity, the energy savings attributable to operation in the 10% to 20% operation range is understated in the evidence. Subsequent analysis shows that the power drawn by a variable frequency drive and pump combination would be below 20% of full load power for operation in this range. Based on a 150 horsepower motor, 20% of full load power equates to 22.4 kilowatts. This results in a revised estimated energy savings of 44.8 kWh for each of the 6900 hours of normal operation, for a total of 309 MWh per year. As before, additional energy savings are anticipated for operation above this range.

2. Reference: BC Hydro Incentive
                        Exhibit C7-4, page 2: Calculation of BC Hydro Incentive

ICG calculates the BC Hydro incentive to be $88,211 based on a 15-year project life.
BC Hydro's project guidelines state that "Funds are awarded to projects that will reduce energy consumption over their entire lifespan, up to 10 years"

   2.1. Please confirm that the BC Hydro incentive calculation, assuming this project met the minimum program threshold, using the maximum effective measure life (EML) of 10 years and the incentive rate of $30.2/MWh as indicated in the guidelines for a project with a 10 year EML, would be 229 MWh x $30.2/MWh x 10 years = $69,158.

   RESPONSE: Not confirmed. The revised energy savings result in the following incentive calculation using the maximum EML of 10 years and the incentive rate of $30.2/MWh:
   309 MWh x $30.2/MWh x 10 years = $93,318.

   2.1.1. If not confirmed, please provide the calculation of the incentive, explaining any differences from the calculation above.

   RESPONSE: Please refer to the response to IR 2.1.

3. Reference: Project Costs

3.1. Please provide in tabular form a detailed breakdown of project costs, including at a minimum, the following components: variable speed drive, motor, pump, installation labour, engineering, and contingency.

RESPONSE: The revised project estimate is provided in the table below. Since the evidence was submitted, quotations have been received for the pump and the piping estimate has been revised:

Major Cost Components	Cost	Accuracy
VFD duty 150 hp motor	20,000	+/- 40%
VFD drive	30,000	+/- 40%
Pump and Piping	50,000	+/- 20%
Installation	35,000	+/- 20%
Engineering	30,000	+/- 40%
Contingencies	10,000	+/- 20%
Total Capital Cost	**175,000**	**+/- 30%**

3.1.1. Please provide the estimated energy savings by component (where applicable).

RESPONSE: The energy savings are estimated for the system as a whole and not broken out by component.