

**BC Hydro**

FOR GENERATIONS

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June 11, 2009

Ms. Erica Hamilton
Commission Secretary
British Columbia Utilities Commission
900 Howe Street, Sixth Floor
Vancouver, BC V6Z 2N3

Dear Ms. Hamilton:

RE: Project No. 3698545
Re: British Columbia Utilities Commission
Inquiry into British Columbia's Long-Term Transmission Infrastructure
Export Study

Pursuant to the Commission's letter of May 4, 2009 (Exhibit A-10), British Columbia Transmission Corporation (BCTC) and British Columbia Hydro and Power Authority (BC Hydro) provide the attached joint submission on an outline of the potential scope of the work to be done and the recommended candidate they would hire to prepare an export study.

Yours truly,

Original signed by:

For Janet L. Fraser
Director, Regulatory Affairs
BCTC

Original signed by:

For Joanna Sofield
Chief Regulatory Officer
BC Hydro

Attachment

c. BCUC Project No. 3698545 Registered Participant Distribution List

Inquiry into British Columbia's Long-Term Transmission Infrastructure
Submission on Scope of Work and
Recommended Candidate for Export Study

1 This is the joint submission of British Columbia Transmission Corporation (BCTC) and
2 British Columbia Hydro and Power Authority (BC Hydro) on an outline of the potential
3 scope of the work to be done and the recommended candidate they would hire to
4 prepare an export study.

5

6 **Background**

7 The British Columbia Utilities Commission (Commission) is undertaking an inquiry into
8 British Columbia's (B.C.) long-term transmission infrastructure requirements. The Inquiry
9 is to take a 30-year provincial perspective on the need for electricity transmission
10 infrastructure. The Inquiry will consider future demand for electricity, expected resource
11 opportunities; renewable electricity potential in British Columbia and opportunities to
12 optimize the provincial benefit inherent in the province's potential to develop renewable,
13 low carbon electricity. This will include an assessment of the external market for this
14 electricity.

15 With the study period for the Inquiry being 30 years, and because the Commission is
16 required to consider, in making its determinations, the potential opportunities to export
17 B.C.'s clean or renewable or low-carbon electricity, the Inquiry will need to consider a set
18 of possible future export scenarios that are not adequately addressed in any current
19 long-term resource planning documents. BCTC and BC Hydro propose to retain an
20 expert to assist in assessing the export potential for B.C.'s electricity, and in doing so, to
21 consider the entire Western Interconnection, and to identify and assess the impact of
22 factors expected to have significant influence on the supply of, and demand for, clean or
23 renewable or low-carbon electricity across the region.

Scope of Work

1 An outline of the potential scope of work the expert would undertake follows:

2 *Assessing B.C.'s Clean, Renewable, Low Carbon Electricity Export Potential*

- 3 ▪ Develop a view of the clean or renewable or low-carbon generation potential in
4 the Western Interconnection;
- 5 ▪ Within each export scenario, determine the demand for electricity in British
6 Columbia, and the resultant surplus available for export to other jurisdictions after
7 accounting for British Columbia's domestic demand, including information
8 provided by BC Hydro;
- 9 ▪ Identify any cross-jurisdictional issues that impact, positively or negatively, B.C.'s
10 ability to export renewable, low carbon electricity; and
- 11 ▪ Advise on the impacts that emerging public policy initiatives might have on B.C.'s
12 export potential.

13 *Cost Competitiveness of B. C. Renewables*

- 14 ▪ Determine cost competitiveness of British Columbia clean or renewable or low-
15 carbon electricity in the Western Interconnection and the likely market share for
16 B.C.'s electricity under different electricity marketing strategies; and
- 17 ▪ Provide a sensitivity analysis around the set of assumptions used in each of the
18 electricity supply and demand forecasts.

19 *Deliverables will include, but not be limited to:*

- 20 ▪ Participation in a series of First Nations and stakeholder workshops to present
21 and receive feedback on scenarios and assumptions;
- 22 ▪ A report describing the analytical approach used to develop the electricity supply
23 and demand forecasts;
- 24 ▪ A framework for assessing these scenarios;
- 25 ▪ An assessment of regional supply and demand factors;
- 26 ▪ An assessment of the relative competitiveness of B.C.'s clean or renewable or
27 low-carbon electricity in export markets; and
- 28 ▪ Presentation of the above-mentioned reports and advice during the evidentiary
29 and submission phases of the Inquiry.

1 **Selection of Expert**

2 Through work on a number of regional initiatives, BCTC and BC Hydro have had
3 exposure to two consultancies with experience in cross-jurisdictional electricity export
4 analysis: Black & Veatch Corporation (Black & Veatch) and Energy and Environmental
5 Economics, Inc. (E3).

6 Black and Veatch performed resource and transmission modeling for the Western
7 Renewable Energy Zone initiative for which the outputs were planning tools to assist
8 resource and transmission planners in decision-making. Black and Veatch also provided
9 its services in the California Renewable Energy Transmission Initiative designed to
10 identify, characterize and assess the renewable resources and necessary transmission
11 needed for California to meet its 33 percent renewable energy goal by 2020.

12 E3 has also done resource and transmission modeling, with a greater emphasis on the
13 economic analysis of energy exchanges between regions across the Western
14 Interconnection. As well, E3 has done modeling for the Western Electricity Industry
15 Leaders Group that is consistent with the proposed scope for the Inquiry's export study.
16 This work examined how regions across the Western Interconnection could most
17 efficiently meet existing Renewable Portfolio Standards (RPS) and greenhouse gas
18 (GHG) emission goals, and provided a high-level benefit-cost analysis of high-priority
19 transmission lines for energy producing and energy consuming regions.

20 E3 has a comprehensive database of renewable generation potential for all states in the
21 Western Interconnection, complete with local construction cost factors for each
22 renewable generating technology. E3 has done considerable modeling for the Western
23 Climate Initiative on the implementation of a regional GHG cap and trade program, and
24 has performed much of the modeling for California on the implementation of its RPS,
25 and implementation of Assembly Bill 32, the *California Global Warming Solutions Act*.

26 Finally, and perhaps most importantly, E3 has detailed knowledge of B.C.'s electricity
27 system and B.C.'s legal and regulatory framework, their work is well known to the
28 Commission, and they have considerable experience working with BCTC and BC Hydro.
29 BCTC and BC Hydro will be providing data and support to the Inquiry throughout the

- 1 proceeding and BCTC has engaged E3 to perform scenario modeling for use in
- 2 developing its information for filing in September.

- 3 Considering the above, BCTC and BC Hydro propose to retain E3 as an expert to
- 4 undertake the export study for B.C.'s Long-Term Transmission Infrastructure Inquiry.