



June 15, 2016

Darrell W. Mauthe  
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Dear Mr. Mauthe,

## **Re: System Impact Study for the Cargill Grain Terminal – New Substation**

On May 19, 2016, BC Hydro and Cargill Ltd. entered into a System Impact Study Agreement to assess the impact of connecting a new Cargill Grain Terminal Substation to the BC Hydro transmission system. The System Impact Study (SIS) work is completed and a brief summary document is attached to this letter. In addition, this letter provides information on the application of BC Hydro's Tariff Supplement #6 (TS#6) that governs load interconnections to the BC Hydro transmission system.

### **Background**

Cargill Ltd. (the Customer) has requested B.C. Hydro (BCH) to perform a System Impact Study (SIS) to connect a new substation that will be built approximately 225 meters east of the existing substation (SWP). A new tap connection (POI) is required on 60L62 by May 2018.

### **Application of BC Hydro Tariff**

BC Hydro's TS #6 identifies how costs for new infrastructure required to connect a new customer are allocated. The tariff splits the interconnection work into three categories: Customer's Facilities, Basic Transmission Extension (BTE) and System Reinforcement (SR). A copy of TS #6 is available on our website at this address:

[https://www.bchydro.com/about/planning\\_regulatory/tariff\\_filings/electric-tariff.html](https://www.bchydro.com/about/planning_regulatory/tariff_filings/electric-tariff.html)

For the Cargill Grain Terminal project, we have determined the following allocation:

#### **Customer's Facilities**

Cargill Ltd. is required to build, own, operate, and pay for the infrastructure deemed Customer Facilities. In this case the Customer Facilities include, but are not limited to, the new substation and a last span of transmission line between the new substation and the point of delivery.

Basic Transmission Extension

BC Hydro builds, owns, and operates the BTE. You are required to pay the full actual cost of the BTE. In this case the BTE includes a 69 kV tap at 60L62, a new self-supported steel pole deadend structure 0-5N, and a new standard guyed wood pole deadend structure 0-6N.

Customers have the opportunity to design and construct the BTE on behalf of BCH, if they wish to do so. This option would require Cargill Ltd. and BCH to enter into a BTE Contract and there would still be costs associated with design reviews and due diligence by BCH, but a majority of the BTE costs would be under customer’s control.

System Reinforcement

System reinforcement is not required for this project.

**Cost Estimate**

In order to make a new connection to the transmission system, especially the very complex one that exists in this province, BC Hydro needs to ensure that it continues to operate safely, efficiently and reliably after the new facilities have been built. There are also many engineering standards and regulatory requirements that have to be met. BC Hydro needs to carry out several studies to investigate and fulfill these requirements. The SIS is just the start of these studies and at this stage it is only possible to provide you with a relatively broad range cost estimate.

BC Hydro estimate of the expected cost with accuracy of +100%/-35%.

The BTE costs have been estimated as follows:

Cost Estimate Description	Estimate (\$K)	Estimate Accuracy Range	
		+100% (\$K)	-35% (\$K)
<b>Payment required from Cargill Ltd. for BTE</b>	1060	2120	689

The estimate is based on the following assumptions:

- All engineering work will be executed by BC Hydro engineers
- Project management will be executed by BC Hydro’s project management
- Construction work will be done by outside contractors
- No P&C, SCADA or Telecom work is required
- PST (7%) cost included in the cost estimate
- We assume there will be no difficulty in obtaining a new crossing permit from CN
- We assume a new disconnect switch is not required because there is an existing disconnect switch already for the tap (i.e. Str.0-1)
- We assume BC Hydro will own the span from 0-5N to 0-6N crossing over the railway
- We assume that BC Hydro will supply the VTs and CTs for revenue metering

- We assume the section from 0-5 to the existing SWP becomes redundant and may be removed if necessary but no cost is allocated for any removal work

### **Next Steps**

BC Hydro needs to carry out further studies to investigate and understand the engineering, First Nation consultation, permitting and other requirements before it is able to prepare a plan for construction. The next stage of the interconnection process is called the Facilities Study which ends with a report that contains a project plan for implementation and a narrower range cost estimate. In this report we also provide a detailed project schedule and a better assessment of the key risks with implementation.

Before we are able to initiate the Facilities Study, please review the SIS and let me know if you have any questions or comments. We will ask for your formal acceptance of the SIS and then require your instructions to prepare a proposal for the Facilities Study.

### **System Impact Study Conclusions**

BC Hydro has completed the SIS for the Cargill Grain Terminal project which concludes it is feasible to connect the proposed substation to BC Hydro's transmission system subject to the SIS findings and the information in this letter.

I am available to answer any questions on the result of this study or discuss further the next steps in the interconnection process. I look forward to your acceptance of the study findings and initiation of the Facilities Study.

Best Regards,

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Attachment: BC Hydro Project ScopeNotes – 3001