

REQUESTOR NAME: **BC Sustainable Energy Association and Sierra Club of British Columbia**

INFORMATION REQUEST ROUND NO: 1

TO: **B.C. Hydro**

DATE: **August 24, 2011**

PROJECT NO: **3698640**

APPLICATION NAME: **Dawson Creek/Chetwynd Area Transmission Project**

1.0 Topic: Energy efficiency
Reference: Exhibit B-1, 2.3.4 Dawson Creek and Groundbirch Area Load Forecast

“DSM initiatives would not be enough to address the capacity shortfall which exists in the Dawson Creek area. DSM initiatives are not expected to defer the in-service date for a project to increase transmission capacity, nor would DSM make a difference in developing the alternatives to meet the 30-year load forecast. For these reasons, BC Hydro did not consider DSM further for the purposes of this application.”

- 1.1 Is BC Hydro considering DSM for natural gas production load in the Dawson Creek and Groundbirch Area and elsewhere in the Province *at all*, i.e., as distinct from considering it in connection with this transmission upgrade project?
- 1.2 What assurances can BC Hydro provide that natural gas production electrical load enabled by approval of the proposed project will be met with the most efficient machinery possible?

2.0 Topic: Need
Reference: Exhibit B-1, Figure 2-4, Dawson Creek and Groundbirch Areas Load Forecast Including DSM

- 2.1 Please provide a version of Figure 2-4 that extends the graph to the left, i.e., showing actual load in previous years for, say, ten years.

3.0 Topic: Planning
Reference: Exhibit B-1, 2.4 Existing System Capacity Constraints

“...Figure 2–5 shows that the existing system cannot serve the entire winter peak load today with a single transmission line taken out of service (N-1), and starting in F2014 the system will not be able to support the winter peak load in the Groundbirch and Dawson Creek areas with all transmission lines in service (N-0). Adding new load connected in the Groundbirch area to this system is not possible until a major transmission project is in place to increase the transmission capacity into the Groundbirch and Dawson Creek areas.”

- 3.1 Is it normal for BC Hydro to have a regional system that cannot serve the entire winter peak load on an N-1 basis, or that is two winters away from being unable to support the winter peak on an N-0 basis? If there are other instances, please list them.

- 3.2 If not, why did BC Hydro not apply for a CPCN for a transmission upgrade in the Dawson Creek/Chetwynd Area sooner?

4.0 Topic: Risk mitigation

Reference: Exhibit B-1, 2.7 Risks and Risk Mitigation; 2.8 Proposed Tariff Revision

“BC Hydro acknowledges that, absent contractual limitations, natural gas producers may not choose to use electricity to meet their compression needs and that in consequence they will require significantly less electricity. To ensure that BC Hydro's existing customers are not exposed to undue risk in this regard, BC Hydro has canvassed industrial customers seeking more than 10 MW of power and requested that they provide security for their pro rata share of the costs of Project based on their forecast load. Each of the customers has indicated its willingness to provide security in this way.

The pro rata share for each of the five large customers that have requested service was calculated on the assumption that 40 per cent of the capacity of the Project is required to return the transmission system back to meeting BC Hydro's standard (N-1) transmission planning criteria for existing customers already taking service. The other 60 per cent of the capacity of the Project will be to serve the five large loads with interconnection requests to BC Hydro. Therefore, the amount of security sought from the customers with interconnection requests will be equal to 60 per cent of the cost of the Project.”

“Tariff Supplement No. 6 provides for new customers paying the incremental costs of transmission reinforcement undertaken to serve their load to the extent the projected revenue from their future rates do not cover those costs. Customers are also required to post security equal to the revenue they are projected to contribute through rates.”
[underline added]

- 4.1 What is the relationship between the security to be provided by industrial customers to be served by the Project and the proposed Tariff Supplement No. 6? Will the security be replaced by Tariff Supplement No. 6? Are the two entirely different?
- 4.2 How is “the extent the projected revenue from their future rates do not cover those [transmission reinforcement] costs” determined? Please confirm that customers served by transmission reinforcement undertaken to serve their load will pay regular tariff rates for electricity they consume. If so, how does *any* portion of the rates they pay go toward covering the cost of the transmission reinforcement (except to the extent that *all* ratepayers cover the cost of transmission reinforcement)?
- 4.3 The discussion in section 2.8 talks about both *security* for the cost of transmission reinforcement and *recovery* of some of the costs of transmission reinforcement. Is BC Hydro proposing to *recover* 60 per cent of the Project costs from the five natural gas electrification load customers to be served by 60 per cent of the capacity of the Project? If not, why not?
- 4.4 Please provide examples of other situations in which BC Hydro has undertaken a transmission reinforcement project to meet electrical demand from prospective, rather than existing, customers. In those situations, did the prospective customers for which the transmission

reinforcement project was undertaken pay for the project? Did they provide security to cover the risk that they would not take the amount service they had requested?

5.0 Topic: Cost; Minister's Review
Reference: Exhibit B-1, 2.6 BC Hydro Corporate Objectives; 4.9 Estimate of Rate Impact

- 5.1 Please file the June 2011 Review of BC Hydro ("Minister's Review").
- 5.2 What are the implications of the Minister's Review for the Project, for example in terms of timing, cost and rate impacts?
- 5.3 The Application states that F2013 would be the first year in which BC Hydro's revenue requirement would be affected by the project [p.4-26]. Is BC Hydro proposing, i.e., in the F2013-F2014 RRA as filed, that the Project's F2013 and F2014 impact on the revenue requirement would be recovered in rates in those fiscal years? Has that changed, or will it change, as a result of BC Hydro's implementation of the Minister's Review?

6.0 Topic: Project justification
Reference: Exhibit B-1, 2. Project Justification

- 6.1 What is the minimum transmission upgrade in the Dawson Creek/Chetwynd Area that BC Hydro is legally obligated to provide, and what is the source of this legal obligation?

7.0 Topic: Stranded asset risk
Reference: Exhibit B-1, 2.5 Load Resource Balances; Figure 2-5 Load Forecast Scenarios; 2.5.2 Scenarios outside the Predicted Range; Appendix H, BCTC Public Engagement document, p.64 of 163

Figure 2-5 shows the High Load Forecast exceeding 500 MW (in approximately 2027) and the Low Load Forecast falling below 200 MW (in approximately 2031).

"There is a risk that all gas producers could choose to use gas compressors in which case the load growth could be even less than projected in the Low Scenario forecast." [p.2-15]

"- Risk of having stranded asset if the load growth or generation projects don't materialize; or conversely not having enough capacity if those requirements exceed the forecast"

- 7.1 Please define "stranded asset." Is there a technical distinction between a stranded asset and an underutilized asset?
- 7.2 Please discuss the risk of the Project becoming a stranded asset, or an underutilized asset.
- 7.3 Is it BC Hydro's proposal that ratepayers would bear the risk of the Project becoming a stranded asset, or an underutilized asset?

8.0 Topic: GHG emissions consequences

Reference: Exhibit B-1, 2.6.1 Energy Objectives (a) Reduce B.C. GHG emissions

“Based on the expected electrical load from gas production that would be served via the Project, the avoided/reduced GHG reductions from using electric compressors rather than gas driven compression is in the range of 1 million tonnes per year in B.C.” [p.2-16]

- 8.1 Please provide or reference all the assumptions and calculations leading to the estimate of avoided/reduced GHG emissions of 1 million tonnes per year. Please include confirmation of the baseline GHG emissions against which the reduction is measured.
- 8.2 Please confirm that the amount of avoided/reduced GHG emissions per year due to the Project enabling electrification of natural gas production load would vary with the yearly amount of electrified natural gas production load.
- 8.3 Please provide a graph and corresponding table showing the Project’s estimated avoided/reduced GHG emissions per year, to 2041. On the table, please also show cumulative GHG reductions; annual produced natural gas (produced with electric power provided by the Project), and the quantity of GHG emissions corresponding to combustion of the produced natural gas, per year and cumulative.
- 8.4 Please provide a graph and corresponding table showing B.C.’s legislated GHG reduction targets, B.C.’s forecast GHG emissions without the Project, and B.C.’s forecast GHG emissions *with* the Project over the planning period.

9.0 Topic: GHG emissions consequences

Reference: Exhibit B-1, 2.6.1 Energy Objectives (a) Reduce B.C. GHG emissions

“There is potential for further avoided/reduced GHG emissions as future gas production in the Montney basin is electrified.”

- 9.1 Please elaborate on this statement. Does this potential for further avoided/reduced GHG emissions apply to the Project as defined, or is it dependent on implementation of further phases of transmission upgrading?

10.0 Topic: GHG emissions consequences

Reference: Exhibit B-1, 2.6.1 Energy Objectives (c) Encourage Economic Development..., p.2-17

“By providing industry with a choice of natural gas or electricity, BC Hydro will make a positive contribution to the overall economics of development in the Montney basin. Those producers that choose to sign up to purchase electricity will do so because they have concluded that it is advantageous in the long term. That in turn will make investment in the Montney and its reserves more attractive”

to them and make the realization of the significant economic benefits identified above more likely.

The choice between gas and electricity for compression will not be the primary determinant of the extent of development in the Montney. At the margin however, it is a significant decision that must be made by producers and the choice of reasonably priced electricity may tip the balance in favour of development in particular circumstances." [underline added]

- 10.1 Please provide an estimate of the incremental gas production that would be induced by embedded cost electricity provided by the Project. Please provide the corresponding GHG emissions due to combustion of this gas.
- 10.2 For comparison, please provide the GHG emissions from combustion of a unit of natural gas and the avoided/reduced GHG emissions from electrification of the production of a unit of natural gas.
- 10.3 The application talks about the potential scope of shale gas development in the Montney being vast, and natural gas gross revenues being approximately \$4.5 billion per year at BC Hydro's forecast gas prices. Please provide a graph and corresponding table showing this quantity of gas and the GHG emissions associated with combustion of this gas over the planning period.
- 10.4 Given that BC Hydro justifies the Project in part by the avoided/reduced GHG emissions due to electrification of natural gas production load, how does BC Hydro reconcile that GHG benefit with the negative GHG emissions consequences of fostering a vast shale gas development?
- 10.5 Please comment on the proposition that if the Project did not proceed at all, or at a scale sufficient to electrify natural gas production load in the Montney Basin, the Project's contribution to tipping the balance in favour of natural gas production in certain situations would be reversed and the avoided GHG emissions from combustion of the avoided natural gas production would be greater than the avoided GHG emissions from electrification of the incremental natural production if the Project did proceed.

11.0 Topic: Effect on wind generation
Reference: Exhibit B-1, Appendix B, System Planning Report, Wind generation; Table 1-2: Near Term Wind Generation Projects Table 1-2: Near Term Wind Generation Projects

- 11.1 Please discuss the implications of the Project for Near Term Wind Generation Projects and potential future wind generation in the Dawson Creek/Chetwynd Area.
- 11.2 To the extent that approval and implementation of the Project builds electrical load in the Dawson Creek/Chetwynd Area is it reasonable to expect that new wind generation resources in the area would be evaluated with a lower or no discount for transmission losses to the Lower Mainland in comparison with other generation resources?

- 11.3 Would approval and implementation of the Project provide any benefit to potential wind generation sources in terms of reduced costs of incremental firm transmission?

12.0 Topic: Project staging

Reference: Exhibit B-1, 3.2.1 Project Staging; 3.2.4 Common F2016 Stage

- 12.1 Please describe the F2016 Stage at a high level, and provide a map showing both the Project and an illustrative configuration of the F2016 Stage.
- 12.2 Please confirm that BC Hydro would apply for a CPCN for the F2016 Stage. Does BC Hydro have an intended target date for a CPCN application for the F2016 Stage? If so, what is the target date? How much lead time does BC Hydro believe is necessary between a CPCN application and the desired in service date of the F2016 Stage?

13.0 Topic: Impacts on system

Reference: Exhibit B-1

- 13.1 Please discuss and quantify the induced natural gas production electrification load associated with the Project in relation to the BC Hydro integrated system load and load balance.
- 13.2 By how many months would the need for new generation resources be advanced, or pushed back, if the Project was approved, or the CPCN rejected?

14.0 Topic: Environmental project risk

Reference: Exhibit B-1, 7.7 Environmental Impacts of the Project; Appendix F, Environmental Overview Assessment

“Potential effects of the Project include the loss of habitat for fish, vegetation, and wildlife. However, if BMPs are implemented and work windows applied, the majority of Project effects can be reduced or eliminated for all disciplines.” [p.192 of 207, pdf p. 538]

- 14.1 Did BC Hydro apply to the B.C. Environmental Assessment Office to voluntarily opt-in to the provincial environmental assessment process under subsection 7(1) of the B.C. *Environmental Assessment Act*? If not, why not?
- 14.2 On what basis will it be determined whether on-site environmental monitors will be engaged by BC Hydro or by contractors? When will that choice be made?
- 14.3 Does BC Hydro retain operational responsibility for auditing and monitoring implementation of the environmental management plan?

15.0 Topic: First Nations project risk

Reference: Exhibit B-1, 2.7 Risks and Risk Mitigation; 6. First Nations Consultation and Public Engagement

- 15.1 To what extent does the Project budget fully incorporate costs associated with BC Hydro meeting obligations or commitments to First Nations? What is the risk of exceeding those cost estimates?
- 15.2 Does BC Hydro consider that its ability to obtain approval and to complete the Project is at risk due to First Nations issues? If so, what steps and procedures will be followed to address this risk?