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August 2, 2012

British Columbia Utilities Commission
600-900 Howe Street
Vancouver, B.C V6Z 2N3

Attention: Ms. Alanna Gillis, Acting Commission Secretary

Dear Madam:

RE: BRITISH COLUMBIA AND POWER AUTHORITY, PROJECT NO. 3698640/ORDER G-132-11
BRITISH COLUMBIA UTILITIES COMMISSION
BC HYDRO CPCN-DAWSON CREEK/ CHETWYND AREA TRANSMISSION PROJECT (DCAT)

Please find attached the final intervener written submission from Current Solutions Inc.

Sincerely,

Jamie Shand, President
Current Solutions Inc.

Attach.

British Columbia and Power Authority, Project No. 3698640/Order G-132-11
British Columbia Utilities Commission
BC Hydro CPCN-Dawson Creek/ Chetwynd Area Transmission Project (DCAT)

CURRENT SOLUTIONS INC. FINAL SUBMISSION

NEED FOR TRANSMISSION EXPANSION IN THE DAWSON CREEK AREA

The 230 kV transmission system expansion design submitted by BC Hydro for the DCAT Project is cost effective, efficient and mitigates system stability problems. From the perspective of First Nations, government and all other stakeholders, it is important for BC Hydro to efficiently and effectively serve its new industrial and other load customers in the Dawson Creek area.

Further to the Electric Act, BC Hydro cannot be discriminatory in its provision of electric service. This service must be provided at an acceptable standard to its customers regardless of the customer's industry type, facility ownership or location. Currently, due to the lack of suitable transmission facilities for the existing load in the Dawson Creek area, some customers are being served at a substandard level of service, while others, despite BC Hydro's obligation to serve, are being refused immediate service by BC Hydro. This is unacceptable and must be rectified in a timely manner. Given the existing load and the significant load growth forecast for industry in the Dawson Creek area it is clear the transmission system requires substantial upgrades to provide an acceptable level of service.

Current Solutions Inc. view is that DCAT is required immediately as the first step in providing reliable service to existing customers on the grid. The DCAT upgrades should be considered the first immediate step in upgrading the transmission system in North East British Columbia. A more robust, costly and complex transmission system upgrade will be required to serve the future industrial load in the North East area of British Columbia as proposed in the Greater Dawson Creek Area (GDAT) system upgrade plan.

NEED FOR 230KV SYSTEM

For secure system stability and reliable service for customers in the area, wind power generation needs to be served via a 230 kV transmission system as proposed in alternative 1 of the DCAT application as designed by BC Hydro. It is unfortunate that a complete or thorough System Impact Study was not carried out concerning the impact of the high voltage system from the operation of Bear Mountain Wind Farm before the IPP became operational. There has been no compelling evidence to refute the technical requirements and need for the 230 kV transmission system due to the operation of Bear Mountain Wind Power IPP.

LOCATION OF SUBSTATIONS TO SERVE LOAD

If the proposed Bear Mountain Terminal (BMT) substation expansion is to serve new load, the substation design team has not taken into account good planning practices relating to location selection. Generally, a substation should provide power supply to all customers within a maximum of about 20 to 35 km radius. As generally shown on maps provided in the evidence (exhibit C15-5, page 6) the proposed BMT substation expansion would require that each future customer build dedicated long lines (greater than 30 km) for service.

If the main purpose of the substation design and planning was to provide service to the Bear Mountain Wind Power IPP (BMW), then the proposed substation is correctly located.

CSI submits that the DCAT planners terminated the 230 kV line at BMT as this is the point of interconnection with BMW and the substation is already owned by BC Hydro. For these reason's CSI believes it was expedient for BC Hydro to presume load customers would connect to the grid at this location, despite the distance from the major industrial load center.

In addition to the duplication of infrastructure, higher capital cost for customers and incurring higher power line losses, extra environmental and landowner concerns are raised as a result of industrial customers running multiple power lines, for many kilometers, from the BMT substation.

By only proposing one "system" substation, and with the location of the BMT substation not necessarily near the majority of load, it is clear that the DCAT proposal as presented by BC Hydro was either built primarily for wind power or not carefully planned or thought out.

Current Solutions Inc. believes that BC Hydro should have considered a "system" substation about 30 km North West of the existing BMT, or build other substations in addition to the BMT substation expansion. If BC Hydro is to serve load and plan its system effectively, one or more system 230/138 kV substations should be built to provide service for multiple customers located to the South West and North West of BMT.

DCAT IS A FIRST STEP

Once DCAT is approved, a process to move forward with the more robust GDAT facility design should occur including any policy issues and changes. The GDAT application and design should meet the future needs of the industrial customers, wind power and other IPPs and all other forecast load in the area. This planning process would include involvement with the British Columbia government, First Nations, land owners, regulatory groups, industrial users, etc. Further discussion of GDAT is beyond the scope of this submittal.

CONCLUSION

In summary, the addition of wind power and large industrial loads in NE British Columbia has created a significant challenge for BC Hydro to provide an appropriate standard of service in a timely manner. Current Solutions Inc. recommends the following:

1. Approval of the Alternative 1- 230 kV DCAT facilities as technically proposed by BC Hydro with the following possible conditions.
    a. If the British Columbia Utilities Commission concurs that it would be good planning practice to have "system" substations located in a well-planned manner to serve new load efficiently, then one or more new substations should be built west of the existing BMT as part of DCAT. This scope change would allow a more efficient, well planned system to be built and also further justifies allocating commercial commitments to the new customers requesting load.
    b. Alternatively, if the scope of work is limited to what was proposed, that is the BMT substation expansion as currently proposed by BC Hydro, then the Bear Mountain Wind IPP should be allocated some of the commercial capital cost of the entire project.
2. Begin the design, planning and consultation process for GDAT immediately, including detailed System Impact Studies that take into account the impact on the

high voltage system. Wind Power IPPs and all other load and generation tied into the grid should not be exempt from the detailed SIS process.

3. Examine the policies and practices for cost effective generation and transmission. In addition to wind power being very expensive, not dispatchable and only available about 30% of the time, this hearing has brought to the forefront the fact that transmission challenges are of concern when operating the grid with intermittent wind power generation. Oil and gas customers have access to a large amount of natural gas that can be burned as a cost effective power producer from a clean energy source as opposed to a green energy source. The addition of this generation portfolio to the grid would greatly assist in the long term power supply and local transmission and voltage support challenges in the Dawson Creek area. In addition, First Nations and other stakeholders may choose to be involved in the ownership and/or operation of these potential generation facilities.

In closing, Current Solutions Inc. believes that DCAT, discussed in great detail in this proceeding, is desperately needed as supported by the evidence submitted by BC Hydro and Current Solutions Inc. However, DCAT is the first stage of the much needed upgraded and expanded transmission system in the planning area. DCAT represents the beginning of the power system expansion and upgrade process necessary to deal with the many opportunities and challenges facing BC Hydro, the province, stakeholders and industrial customers with electricity supply in the region.

Current Solutions Inc. appreciates the opportunity to share its knowledge and express its opinions on the DCAT transmission facilities need, planning and design. Current Solutions Inc. will continue to work with BC Hydro, customers and other stakeholders to search for optimum transmission expansion and upgrade plans for the benefit of all. We look forward to the decision by the British Columbia Utilities Commission on this CPCN.