Peace Region Load Serving Capability

INFORMATION RELEASE

Load Serving Capability for New Load Interconnections in the Dawson Creek and Chetwynd Area

Background

Gas exploration and drilling companies have been buying mineral rights near Dawson Creek over the last several years. The industry is adding production and is expected to continue to do so within the foreseeable future with much of the green field expansions powered by electrical compressors[1]. Supplying these new loads is pushing the transmission system to its limits. This information release describes the short term load serving capability of the transmission system, and the long term capacity build out to meet the expected load growth.

Short Term Transmission Capacity

The BCTC's planning criteria seeks to keep voltages (at distribution and transmission busses) within acceptable limits, and load served without exceeding equipment ratings under the maximum system load stress conditions.

When adding new load to the system, it's important to confirm that the load serving capability is not exceeded, which would lead to a violation of the planning criteria. The following assumptions were considered when defining the existing load serving capability shown in Tables 1 and 2:

1. The base case was created using the July 2008 distribution substation load forecast data provided by BC Hydro Load Forecasting Group. The non-coincidental peak load was used in all power flows.
2. 45MW was allocated to load interconnections that have been requested. 138kV Shunt capacitor banks at the Dawson Creek substation are assumed in service to meet BCTC's planning criteria after the interconnection of these loads by 2012.
3. For N-0 system normal conditions, Bear Mountain Wind Farm is assumed to be offline.
4. For N-1 system conditions, Bear Mountain Wind Farm is assumed to be producing 20MW +/-10MVar.
5. A load serving capability value was determined for the Chetwynd and Dawson Creek areas (Figure 1) separately. However, adding load to one area will impact the load serving capability in the other. Any mix of load increases in the two areas would need to be studied.
6. Transmission and Distribution loads are treated the same because both are ultimately served by the transmission system.
7. The existing load serving capability is determined assuming no future transmission system reinforcements.

It is important to note that the numbers in Tables 1 and 2 should be considered approximate because a System Impact Study is required to identify the requirements of specific projects.

[1] The trend to electrical rather than gas fuelled equipment is based on increased reliability, carbon tax avoidance and lower production costs.

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Table 1: Short term load serving capability for new loads in the Dawson Creek area

	System Condition	Load Serving Capability
Dawson Creek Area	N-0 (System Normal)	Approximately 10 MW (2010/11)*
	N-1 (Single Contingency)	Zero MW (Load must be curtailed)

* Distribution load growth at Dawson Creek substation will cause the N-0 available load serving capability in the Dawson Creek area to gradually reduce until it is mostly consumed by 2018/19

Table 2: Short term load serving capability for new loads in the Chetwynd area

	System Condition	Load Serving Capability
Chetwynd Area	N-0 (System Normal)	Approximately 12 MW (2010/11)*
	N-1 (Single Contingency)	Zero MW (Load must be curtailed)

* Distribution load growth at Chetwynd substation will cause the N-0 available load serving capability in the Chetwynd area to gradually reduce to 8 MW by 2018/19

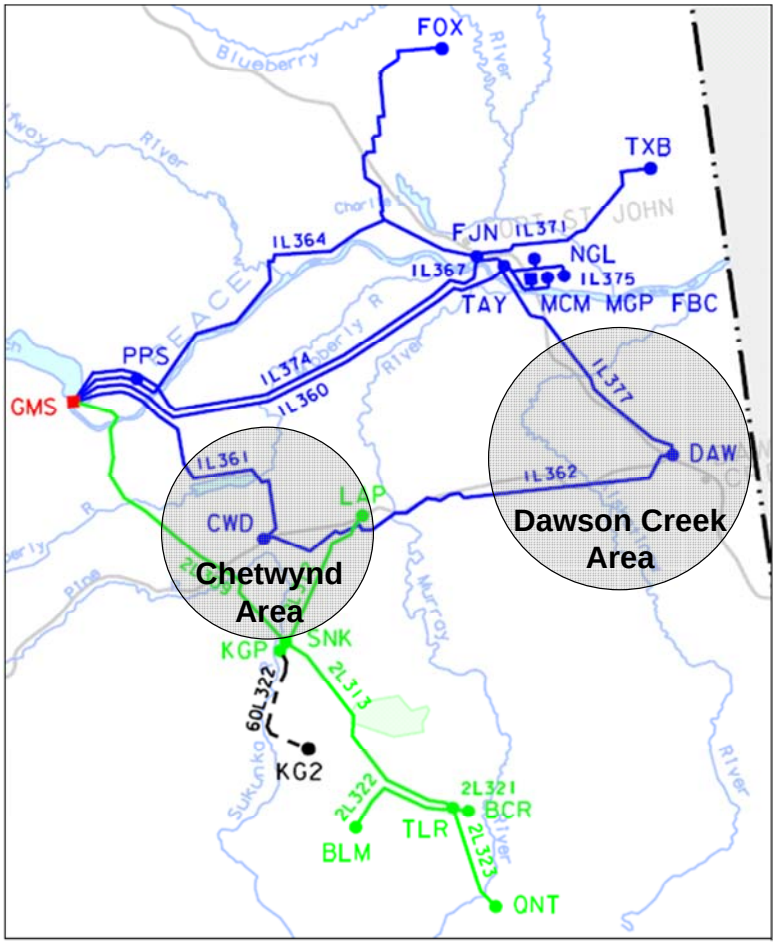

Figure 1: Peace Region

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Long Term Capacity Build-Out
In its F2010 Capital Plan filling to the BC Utilities Commission (BCUC), BCTC requested funding of $3 million for the definition phase of the Dawson Creek area reinforcement project. If the BCUC approves the requested definition phase funding (the decision is expected in July 2009), BCTC will commence with the definition phase of the Dawson Creek area reinforcement project in October 2009.