

# 4 October 2006

## INFORMATION RELEASE ON THE INTERIOR TO LOWER MAINLAND TRANSMISSION NETWORK (ILM)

#### Introduction

Preliminary system planning information has been developed in response to BC Hydro's Amended Long Term Acquisition Plan (Amended LTAP). This information is posted to meet BCTC's Standard of Conduct requirement and to facilitate discussion with BC Hydro on the assessment of the Interior to Lower Mainland Transmission Network. This information is preliminary in nature, may not be complete and could change because of further studies or feedback from BC Hydro.

### **Description of ILM Transmission Network**

The ILM transmission network is comprised of 500 kV circuits which connect the Kelly Lake (KLY) and Nicola (NIC) substations in the Interior to the Cheekye (CKY), Meridian (MDN), Ingledow (ING) and Clayburn (CBN) substations in the Lower Mainland. In addition, 500 kV circuits connecting CKY, MDN, ING and CBN in the Lower Mainland also form part of the ILM network.

### ILM Restrictions and Possible System Reinforcements

The ILM transmission network is thermally and voltage stability limited during peak power transfers. Additional Power flow on the ILM transmission network will only be possible if thermal and voltage stability constraints are removed. One option to reinforce the ILM network is a 50% compensated 500 kV line from Nicola to Meridian with an earliest in-service date on 2013. The in-service date of this option depends upon the resource plan, load forecast, demand side management programs, and generation dispatch requirements.

#### Information

BCTC is posting three charts showing the results to date of transmission analysis based on thermal limits for the LTAP and Contingency portfolios as described by BC Hydro in their amended LTAP application filed with the BCUC in Exhibit B1-E on August 31, 2006.

Please see <a href="http://www.bcuc.com/ApplicationView.aspx?ApplicationId=105">http://www.bcuc.com/ApplicationView.aspx?ApplicationId=105</a> for the above Exhibit.

The LTAP transmission analysis presented below is limited to the timing of the reinforcement of the Interior to Lower Mainland network. The analysis considers the impact of using both dependable and maximum capacity levels of generation

resources outside of the Lower Mainland. Figure 1 shows the ILM network flows vs. the transfer limits of this network for both levels of generation. The transfer limit is a function of generation dispatch and for a dependable dispatch it corresponds to approximately 6300 MW whereas for a maximum capacity dispatch it corresponds to 5899 MW. Figure 1 shows that the timing of reinforcement would be 2014 in the case of maximum remote generation or 2019 in the case of dependable generation. Restrictions related to the 1-hour rating of the existing series capacitors may advance the later in-service date.

The transmission analysis for the contingency portfolios, considering only the dependable levels of remote generation, is also limited to the reinforcement of the ILM network. This triggers the need for a reinforcement by the earliest inservice date of 2014. This is presented in Figure 2 (Contingency Plan 1) and Figure 3 (Contingency Plan 2). The use of maximum levels of remote generation would advance the timing of a reinforcement to an infeasible in-service date.

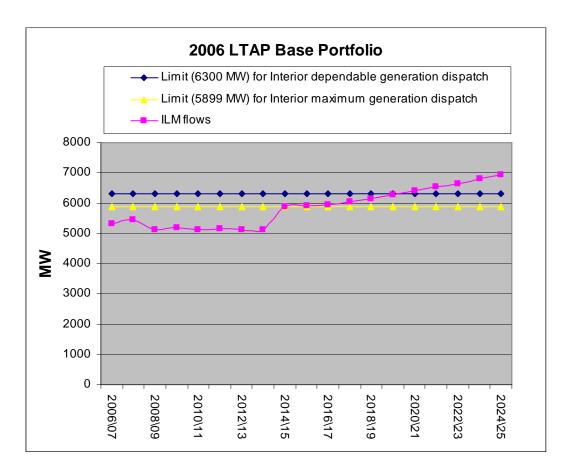


Figure 1

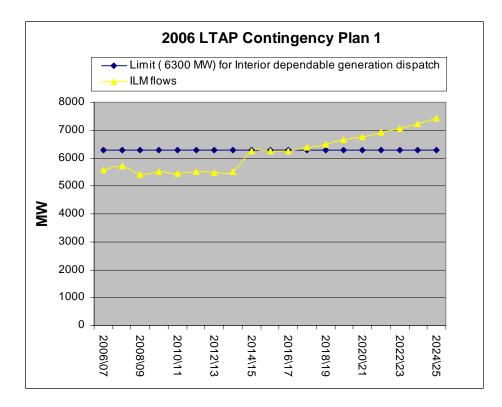


Figure 2

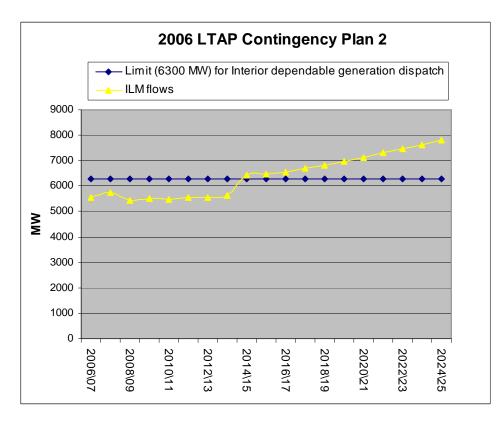


Figure 3

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