



**British Columbia Transmission  
CORPORATION™**

**System Impact Study for  
One-Year Transfer Applications on the  
EAL × BPAT Path  
1 May 2006 – 1 May 2007**

**Report No: SPA2006-4  
April 2006**

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## Executive Summary

The following applications for Long Term Firm Point-to-Point (LTFPtP) transmission service on the EAL x BPAT Path were submitted to British Columbia Transmission Corporation (BCTC):

OASIS #	Time Stamp	Customer	Amount	Term
70604454	16 Dec. 2005	NRPT	25 MW	1 year (1 May 2006 – 1 May 2007)
70604455	16 Dec. 2005	NRPT	25 MW	1 year (1 May 2006 – 1 May 2007)

In response to the above applications and in accordance with the Open Access Transmission Tariff (OATT), BCTC prepared this System Impact Study (SIS). The SIS only addresses the capability of the BCTC's transmission grid and does not consider capabilities of adjacent systems.

The starting conditions for this SIS are: BCTC's studies of the 2004 Network Integrated Transmission Services request (NITS2004), BC Hydro's native load requirements, existing "General Wheeling Agreement" (GWA) transfer rights, and prior LTFPtP commitments on the EAL x BCTC and BCTC x BPAT Paths.

In this SIS, it is concluded that the existing transmission system does not have the capability to accommodate any of the requested Long-Term Transmission Services. The only way that the requested Long-Term Firm Point-to-Point Transmission Services can be accommodated is through the re-dispatch of generation resources, where:

OASIS # 70604454:

- a) South Interior East (SIE) generation is restricted to limit the flow on the 5L91-5L96-5L98 cut-plane to 1825 MW between 1 May 2006 and 1 May 2007.
- b) The Lower Mainland (LM) and Vancouver Island (VI) generation is dispatched to relieve approximately 27 MW on the Interior to Lower Mainland (ILM) transmission grid between 1 May 2006 and 1 May 2007.

OASIS # 70604454 and 70604455:

- a) SIE generation is restricted to limit the flow on the 5L91-5L96-5L98 cut-plane to 1800 MW between 1 May 2006 and 1 May 2007.
- b) The LM and VI generation is dispatched to relieve approximately 54 MW on the ILM transmission grid between 1 May 2006 and 1 May 2007.

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## 1. Introduction

The following two Wholesale Transmission Service (WTS) Applications for wheeling LTFTP power through BCTC's transmission grid on the EAL x BPAT path are processed in accordance with BCTC's OATT:

OASIS #	Time Stamp	Customer	Amount	Term
70604454	16 Dec. 2005	NRPT	25 MW	1 year (1 May 2006 – 1 May 2007)
70604455	16 Dec. 2005	NRPT	25 MW	1 year (1 May 2006 – 1 May 2007)

This SIS reviews the system conditions that are required for delivering each, and/or aggregate, of the above requests.

## 2. Terms of Reference

Review of the submitted OASIS requests is conducted with reference to the following two BCTC documents:

1- "Facilities Study For BC Hydro Distribution NITS 2004, Report # SP2005-26, September 2005" (NITS2004-FS).

<http://www.bctc.com/NR/rdonlyres/86705D4D-0560-4A56-AAB1-5F9FA32ADDF9/0/SP200526Final2.pdf>

2- "System Impact Study For BC Hydro Distribution NITS 2004 - Stage 3 (Final) Revision-1, Report # SP2005-06, May 2005" (NITS2004-SIS-Stage3).

[http://www.bctc.com/NR/rdonlyres/7242916C-A344-434E-8C4E-5B27108ADB9B/0/SIS\\_Stage3Revision1.pdf](http://www.bctc.com/NR/rdonlyres/7242916C-A344-434E-8C4E-5B27108ADB9B/0/SIS_Stage3Revision1.pdf)

## 3. Resources for Transmission Request

The Point-of-Receipt (POR) will be BC - Alberta border on the EAL x BPAT Path. Since there is no ATC on the Eastern BC-US tie, power delivery will be through the Westside BC – US 500 kV interconnections (5L51 and 5L52). Point-of-Delivery (POD) will be at the BC – US border. Alberta generators are the resources for this request.

## 4. System Study Conditions

Review of the OASIS requests # 70604454, and 70604455 is based on the following network conditions:

- BC Hydro's October 2004 normal load forecast with the probability of the actual load exceeding the forecast once every two years<sup>1</sup>.
- BC Hydro's committed amount of generation in the LM and VI: 1320 MW between 1 April 2006 and 31 March 2008<sup>2</sup>.
- BC Hydro's required peak hour Reliability Must Run (RMR) generation in the LM and VI for the normal load forecast: 1207 MW from 1 April 2006 to 31 March 2007<sup>3</sup>.
- Total Transfer Capability (TTC) of the 5L91-5L96-5L98 cut-plane: 1850 MW<sup>4</sup>.
- The existing General Wheeling Agreement (GWA) with Fortis BC on transfer rights.
- OASIS # 72623 for 230 MW LTFPtP commitment on the BCTC x BPAT Path
- Automatic rollover of OASIS # 311567 for 101 MW LTFPtP transfer on EAL x BCTC.
- Teck Cominco Scheduling rights.
- Transmission Reliability Margin (TRM) of 65 MW on the AEL x BCTC path.
- TRM of 50 MW on the BCTC x BPAT path.

## 5. Project and Transmission Service Risks

Content of this document contains some uncertainty in terms of the load forecast and committed generation in the LM, VI, and SI-E.

## 6. Conclusions

In this SIS, it is concluded that the existing transmission system does not have the capability to accommodate any of the requested Long-Term Transmission Service. The only way that the requested Long-Term Firm Point-to-Point Transmission Service can be accommodated is through the re-dispatch of BC Hydro's generation resources, where:

OASIS # 70604454:

- a) SIE generation is restricted to limit the flow on the 5L91-5L96-5L98 cut-plane to 1825 MW between 1 May 2006 and 1 May 2007.
- b) The LM and VI generation is dispatched to relieve approximately 27 MW on the ILM transmission grid between 1 May 2006 and 1 May 2007.

OASIS # 70604454 and 70604455:

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<sup>1</sup> BC Hydro's native load requirements are included in the Network Integration Transmission Service request OASIS No.'s 1349122, 1349123, 1349124, and 1349125 submitted on 15 September 2004.

<sup>2</sup> NITS2004-FS, Page 10, Table 5.1

<sup>3</sup> NITS2004-SIS-Stage3, Page 13, Table 4.1

<sup>4</sup> NITS2004-FS, Page 28

- a) SIE generation is restricted to limit the flow on the 5L91-5L96-5L98 cut-plane to 1800 MW between 1 May 2006 and 1 May 2007.
- b) The LM and VI generation is dispatched to relieve approximately 54 MW on the ILM transmission grid between 1 May 2006 and 1 May 2007.

## **Appendix 1      Transmission Cut Planes**



**Figure 1: The Interior to Lower Mainland Cut Plane**

TTC: Approximately 6300 MW

**Expected cut plane flow:**

6230 MW (with 1320.1 MW generation in the LM & VI) in winter 2006,

6310 MW (with 1320.6 MW generation in the LM & VI) in winter 2007.



