



David Bennett
Vice President, Regulatory Affairs
and General Counsel

FortisBC Inc.
Regulatory Affairs Department
1290 Esplanade Box 130
Trail BC V1R 4L4
Ph: (250) 717 0853
Fax: 1 866 605 9431
regulatory@fortisbc.com
www.fortisbc.com

FORTISBC ~ NARAMATA SUBSTATION PROJECT	EXHIBIT	B-1
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April 30, 2007

Via Email
Original via Courier

Mr. R.J. Pellatt
Commission Secretary
BC Utilities Commission
6th Floor, 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Mr. Pellatt:

Re: Naramata Substation Project

Pursuant to Commission Order G-42-07, please find enclosed twenty copies of FortisBC Inc.'s ("FortisBC") Report comparing Siting Alternatives for the Substation.

As suggested in the Order, FortisBC wishes the evidentiary record to include its letter to the Commission dated April 10, 2007, and hereby requests that the letter be entered as Exhibit B-2 in this proceeding.

Sincerely,

David Bennett
Vice-President, Regulatory Affairs
and General Counsel
FortisBC Inc.

FortisBC Inc.
Submission regarding the Naramata Substation Project

A. INTRODUCTION

1. On April 12, 2007, the British Columbia Utilities Commission (the “Commission”) issued Order No. G-42-07 (the ”Order”) in regard to the Naramata Substation Project (the “Project”) which is proposed by FortisBC Inc. (“FortisBC” or the “Company”). The Project involves rebuilding a substation in Naramata at a different site than the current Naramata Substation. The Project was included in FortisBC’s 2005 Capital Expenditure Plan that formed part of the 2005 Revenue Requirements, System Development Plan and Resource Plan Application, and approved by Order G-52-05.
2. In Appendix A to Order No. G-42-07, the Commission directed FortisBC to file a Report comparing the Arawana Road and Fire Hall (Naramata Road at Debeck Road) sites, and proposing a Regulatory Timetable for the Oral Public Hearing into the siting alternatives that was the subject of the Order.
3. FortisBC’s letter dated April 10, 2007 includes the full record of the Company’s filings in regard to the Project. In order to ensure completeness of the regulatory record, the Company requests that the Commission enter the April 10, 2007 letter as Exhibit B-2 in this proceeding.

B. BACKGROUND TO THE PROJECT

4. The community of Naramata is located on the east side of Okanagan Lake, adjoining the City of Penticton. This agricultural area is supplied by a single radial 63 kV line from RG Anderson Terminal station in Penticton. The demand for load in Naramata has exceeded the substation capacity and the existing site of the Naramata Substation is not suitable. A rebuild of the substation at another site is required to meet load requirements, improve reliability in the area and ensure employee safety.
5. The Project is also required to address and improve equipment condition. The 2006/07 winter peak load was 125% of the emergency nameplate rating of the existing transformer. In addition, the transformer tapchanger has failed

FortisBC Inc.
Submission regarding the Naramata Substation Project

frequently, causing voltage fluctuations beyond the normal range. The general condition of all of the substation equipment has deteriorated due to age.

6. This overload condition is creating a risk of transformer failure for future winter peak loads. It should be noted that a new water system upgrade has added approximately 15% to the Naramata area load subsequent to the peak measurement above.

C. A TOTAL PROJECT COST ESTIMATE, INCLUDING A SUMMARY OF EXPENDITURES TO DATE

7. Project costs are as provided in the March 15, 2007 update to the Commission (Exhibit B-2, Appendix H, page 2), with the addition of costs related to the Oral Public Hearing process and a revised AFUDC estimate for the Fire Hall site.

	Arawana Rd	Fire Hall
Expenditures to Date	(\$000s)	
Project Management and Planning	500	500
Transformer and Materials	900	900
Design and Engineering	525	525
Acquisition of Arawana Road Site	<u>525</u>	<u>525</u>
Subtotal	2,450	2,450
Future Project Costs		
Substation	2,650	3,850
Transmission Line	250	50
Distribution Line	100	50
Acquisition of Fire Hall Site	0	400
Disposal of Arawana Road Site	0	(500)
Line Rights of Way	300	0
Regulatory Costs – Public Hearing	200	200
Financing Costs Capitalized (AFUDC)	<u>339</u>	<u>912</u>
Total	6,289	7,412

8. The costs, as estimated in the March 15, 2007 update, were \$6.089 million for the Arawana Road Site and \$7.167 million for the Fire Hall Site. The cost estimates provided above include, for both sites, an increase over the March 15, 2007 estimates of \$200,000 for costs associated with the BCUC's oral public hearing. In addition, the estimate for the Fire Hall site has increased by a further \$45,000

FortisBC Inc.
Submission regarding the Naramata Substation Project

which is the net of: a \$500,000 recovery estimated from the possible re-sale of the Arawana Road site and an increase of \$545,000 in AFUDC. The higher AFUDC is the result of postponing construction of the substation until February 2009 as described in the Project Schedule section.

D. A SUMMARY OF AGREEMENTS, PERMITS AND APPROVALS THAT REMAIN OUTSTANDING FOR THE PROJECT

9. The following table summarizes the agreements, permits and approvals that are required for the Arawana Road and Fire Hall sites.

	Arawana Road Site	Fire Hall Site
Substation Land Acquisition	Complete	MOT ⁽¹⁾ and ILMB ⁽²⁾
Release of RDOS lease	Not required	Required
Line Rights of Way	Transmission and Distribution	Not required
Agricultural Land Reserve Status	Approved	Not in ALR
Regional District Re-Zoning	Conditional Approval	Application Required
Regional District Re-Zoning	Height Variance may be required	Height Variance may be required
Environmental Assessment	Not required	Not required
Construction and Building Permits	As necessary	As necessary

⁽¹⁾ Ministry of Transportation

⁽²⁾ Integrated Land Management Bureau

(i) Permits, Approvals, and Agreements Related to Land Acquisition

10. The Arawana site is owned by FortisBC and does not require any further agreements.
11. Selection of the Fire Hall site would require the acquisition of two parcels of land from the Province. An application to purchase the first parcel was filed with the Ministry of Transportation (“MOT”) during the investigation stage for the Fire

FortisBC Inc.
Submission regarding the Naramata Substation Project

- Hall site. This application will remain on file until FortisBC initiates further discussions, which would include negotiation of a purchase price.
12. The second parcel is under the control of the Integrated Land Management Bureau (the “ILMB”). An application to ILMB has been prepared but not submitted. Prior to acquiring this parcel, a release would be required from the Regional District of Okanagan Similkameen (“RDOS”), which holds a lease on the property. FortisBC understands that the ILMB process is typically completed within approximately 140 days.
 13. Acquisition of transmission and distribution rights of way from Arawana Road site to the existing system will be necessary. The proposed new lines could be constructed underground at incremental cost, however the project costs identified above are for overhead facilities, in accordance with FortisBC’s Electric Tariff.
 14. The Agricultural Land Commission (the “ALC”) has approved FortisBC's application for a Permit of Non-farm use of land in the Agricultural Land Reserve for the Arawana site. The land for the Fire Hall site is not within the Agricultural Land Reserve.
- (ii) Zoning**
15. Both sites are subject to rezoning approval by the RDOS. Any approvals are unlikely to be obtained until after the RDOS adopts a new Official Community Plan (“OCP”), which is expected in the fall of 2007.
 16. A rezoning application has been submitted for the Arawana Road site. As FortisBC advised in its letter to the Commission dated October 26, 2006 (Exhibit B-2, Appendix E, page 1), the Regional District’s Naramata Advisory Planning Committee (the “APC”) reviewed the application at an open meeting on October 11, 2006 and the APC voted in favour of changing the zoning to allow the substation to be constructed and operated on Arawana Road if the Fire Hall site is determined to be unsuitable.
 17. With regard to the Fire Hall site, a rezoning application would be submitted following acquisition of the Fire Hall site.
 18. There may also be a requirement for a height variance for both sites from current height restrictions contained in the zoning by-law.

FortisBC Inc.
Submission regarding the Naramata Substation Project

(iii) Other Permits Required

19. FortisBC is committed to operating in an environmentally responsible manner. An initial evaluation of the sites reviewed for the Project has not indicated a requirement for permitting or applications specific to environmental considerations. Should a specific requirement for environmental permitting become known which will affect the Project in a material way, FortisBC will advise the Commission accordingly.
20. Construction and building permits and approvals will be required as the Project progresses. However, these will not be sought until a site is confirmed and construction related activities commence. There are no apparent requirements in this regard, applicable to one site, that would not also apply to the other.

E. PROJECT SCHEDULE FOR THE SUBSTATION AND TRANSMISSION AND DISTRIBUTION LINE CONNECTIONS

	Arawana Road Site	Fire Hall Site
BCUC Decision	September 2007	September 2007
Land Acquisition	Completed	February 2008
RDOS Rezoning application	In progress	February 2008
Rezoning Approved	October 2007	May 2008
ROW Acquisition	January 2008	n/a
Design and Engineering	January 2008	August 2008
Construction Contract Awarded	March 2008	January 2009
Construction Start	April 2008	February 2009
Construction Ends	September 2008	September 2009
Commissioning Complete	October 2008	October 2009

21. The schedule assumes a conclusion to the BCUC's public process in September 2007.
22. The substation, if constructed at the Arawana Road site, will be placed in service in the Fourth Quarter of 2008.
23. If constructed at the Fire Hall site, however, two factors would result in a delay of the in-service date to the Fourth Quarter of 2009. The first of these factors is the

FortisBC Inc.
Submission regarding the Naramata Substation Project

additional time to acquire the Fire Hall site. As stated above, in excess of four months may be required to complete the transaction, following a BCUC Order to construct the substation at that site. As a result, the RDOS rezoning process would likely conclude in mid-2008.

24. In that circumstance, construction of the substation could not be completed prior to the winter season of 2008/09, and the existing electrical infrastructure in Naramata would be required to service the load through a second winter peak season. The risk of failure of the already overloaded Naramata transformer would be increased.
25. Under present circumstances, when a mobile substation is required for maintenance or emergency backup at Naramata, it is parked at the Fire Hall site. If, during the 2008/09 winter, a failure of the existing transformer occurred while construction was underway at the Fire Hall site, there would be no readily available site to locate the mobile substation. For that reason, FortisBC would not begin construction until after the 2008/09 winter season, or until February 2009.
26. This would result in a delay of one year if the Fire Hall site is chosen, compared to the Arawana Road site where construction could be completed prior to the winter peak season of 2008/09.

F. COMPARISON OF THE ALTERNATE SITES ON A NON-FINANCIAL BASIS

27. Table 1 below provides a non-financial comparison of the Arawana Road and Fire Hall sites based on the criteria suggested by the Commission. No additional criteria are suggested nor were any of the criteria modified. Following Table 1 is a list of Definitions of each of the criteria applied. FortisBC reviewed and considered acceptable, with modifications, the Definitions submitted by BCTC in response to the VITR Project Information Request 4.204.1.

FortisBC Inc.
Submission regarding the Naramata Substation Project

	Criterion	Weighting Factors	Arawana Road		Fire Hall	
			Rank	Weighted Rank	Rank	Weighted Rank
1.	Reliability	10	3	30	3	30
2.	Operations & Safety	15	5	75	2	30
3.	Public Health	15	5	75	5	75
4.	Risk of Delay	10	4	40	1	10
5.	First Nations	10	5	50	5	50
6.	Terrestrial Habitat	5	3	15	5	25
7.	Parks & Recreation	5	5	25	5	25
8.	Aesthetics	5	3	15	2	10
9.	Property Values	5	5	25	5	25
10.	EMF	5	5	25	5	25
11.	Effects during Construction	5	4	20	2	10
12.	Flexibility for Future Growth	10	4	40	2	20
13.	Totals	100		435		335

DEFINITIONS

1. Reliability - a measure of availability of electrical supply on the new transmission, distribution and substation facilities. Also considers potential for exposure to damage and resulting service outages due to external hazards.
2. Operations and Safety

FortisBC Inc.
Submission regarding the Naramata Substation Project

- (a) Operations - considers accessibility and operability of the facilities by FortisBC employees and contractors working on system repairs or performing routine maintenance. An example is the degree of difficulty of access to a substation with heavy equipment.
 - (b) Safety - considers exposure to injury for persons working on or near line or station facilities including the general public, FortisBC employees, and contractors. Considerations include limits of approach to energized equipment, lines and buswork and safe clearance for vehicles and service equipment.
3. Public Health - applies to health and environmental issues posed by the transmission, distribution and substation facilities, which may include but may not be limited to, accidental release of controlled materials, oil spills, and any other such events. FortisBC designs, constructs and operates these facilities to ensure that probability of such events are mitigated.
 4. Risk of Delay - considers the risk of significant delay to the final in service date of the proposed facilities. Delays can stem from regulatory process, permitting, zoning applications and procurement schedules. There is a high risk of the existing Naramata Substation transformer emergency capacity being exceeded within the next peak load cycle.
 5. First Nations - considers the effect of the project on the cultural values, economic well being and quality of life of First Nations citizens.
 6. Terrestrial Habitat - considers potential effects on the natural habitats of both aquatic and land dwelling plants and animals including rare and endangered species.
 7. Parks and Recreation - considers the potential impact of the project on the capability of the parks and recreation areas to continue to provide a quality experience for existing and future users.

FortisBC Inc.
Submission regarding the Naramata Substation Project

8. Aesthetics - considers visual effects of the proposed facilities that may be observed by residents and visitors in the project area.
9. Property Values - considers the potential effects of the proposed project on the market value of real estate in the project area.
10. EMF – considers project compliance with the World Health Organization ("WHO") and International Commission on Non-Ionizing Radiation Protection ("ICNIRP") guidelines.
11. Effects during Construction - considers the temporary disruption to residents, property owners and services near the project area. Disruptions may include service interruptions, land use, traffic detours and delays, noise and dust.
12. Flexibility for Future Growth - considers the scalability of the project for future growth and distribution network flexibility.

G. ANALYSIS

28. In terms of non-financial criteria, the Arawana Road site ranks higher for the following criteria: Operations and Safety, Risk of Delay, Aesthetics, Effects during Construction, and Flexibility for Future Growth.
29. The restricted size of the Fire Hall site gives rise to a number of operational and safety issues relating to substation maintenance as well as emergency response time in the event a mobile substation is required to be installed. These include:
 - the oil processing unit and tanker would need to be parked outside of the station, restricting traffic flow;
 - there is no available space for vehicles and Company vehicles would need to be parked roadside;
 - restricted operation of manlifts and truck mounted cranes;

FortisBC Inc.
Submission regarding the Naramata Substation Project

- transformer replacement would require road closures to position cranes; and
 - a single entrance to the site restricts general operations, such as snow clearing.
30. The extended period for land acquisition and zoning approval for the Fire Hall site increases the risks associated with project delay. Construction would not begin prior to February 2009, and costs would increase accordingly.
31. From an aesthetic perspective, the Fire Hall site is prominently located along the major thoroughfare to Naramata and is insufficient in size to permit screening of the substation by natural means. If required, an effective means of minimizing the substation's visual impact at this site would be to construct a ten-foot high solid wall that would screen most of the substation equipment, but which in itself may create an aesthetic concern.
32. If constructed at the Arawana Road site, the substation would be shielded by the natural grade and topography of the site to some extent within a tree buffer consistent with the natural appearance of the vegetation in the area to minimize the aesthetic concerns of the limited number of landowners in proximity to this location.
33. A comparison of the construction challenges as between the Fire Hall site and the Arawana Road site discloses the following:
- (a) The Arawana Road site provides sufficient room to stockpile material from clearing activities. Any excess material would likely be bermed rather than hauled offsite. This is not the case at the Fire Hall site.
 - (b) A staging area to receive equipment and construction materials would likely be constructed at the Arawana Road site for use during construction. The Fire Hall site does not provide room for staging.
 - (c) Access to the Arawana Road site is from a local road with room for construction traffic to navigate within property limits. The Fire Hall site would require full time traffic control to ensure safe access to and from the site by construction traffic.

FortisBC Inc.
Submission regarding the Naramata Substation Project

- (d) The Arawana Road site will allow for more flexibility for construction contractors to work in conjunction with each other whereas construction of the Fire Hall site would need to be phased, thereby extending the time require for construction (i.e. a retaining wall would need to be built before foundation work could begin). It is likely that only one building contractor at a time would be able to work on the site safely.
34. The Arawana Road site is advantageous because it offers the ability to add voltage regulation, a capacitor bank, or other distribution equipment as may be required to meet future load growth. The Fire Hall is constrained with regard to possible future expansion.

H. PROPOSED REGULATORY TIMETABLE

35. FortisBC proposes the following regulatory schedule:
- | | |
|---------|--|
| May 7 | Intervenor Registration per Order G-42-07 |
| May 23 | Commission and Intervenor Information Requests |
| June 6 | FortisBC Response to Information Requests |
| June 15 | Filing of Intervenor Evidence |
| June 22 | Information Requests to Intervenors |
| July 6 | Intervenor Responses to Information Requests |
| July 20 | FortisBC Rebuttal Evidence (if any) |
| July 24 | Oral Public Hearing, with oral argument/submissions at conclusion of Hearing |
36. Upon approval of the proposed regulatory timetable, a second print publication identifying the date and location of the Oral Public Hearing will be required. FortisBC proposes that this publication include a map and rendering of the proposed substation, which the Company will prepare, at each of the Arawana Road and Fire Hall sites.

I. PROPOSED ISSUES LIST

37. FortisBC proposes the following issues list:

1. Comparison of Arawana Road and Fire Hall Sites
2. Route Options for Transmission and Distribution Ties To The Arawana Road and Fire Hall Sites

J. CONCLUSION

38. FortisBC, after an extensive review of the sites and the respective issues, determined, as stated in its March, 2007 letter to the Commission (Exhibit B-2, Appendix H), that the Arawana Road site is the best site to construct the new substation.