

FORTISBC ~ NARAMATA SUBSTATION PROJECT

Vice President, Regulatory Affairs

David Bennett

and General Counsel

EXHIBIT B-2

FortisBC Inc.

Regulatory Affairs Department 1290 Esplanade Box 130 Trail BC V1R 4L4 Fax: 1 866 605 9431 David.Bennett@fortisbc.com www.fortisbc.com

April 10, 2007

<u>Via Email</u>

Mr. R.J. Pellatt Commission Secretary BC Utilities Commission Sixth Floor, 900 Howe Street, Box 250 Vancouver, BC V6Z 2N3

Dear Mr. Pellatt:

Re: FortisBC Inc. Submission regarding the Naramata Substation Project

FortisBC Inc. ("FortisBC" or the "Company") understands that the British Columbia Utilities Commission ("BCUC" or "Commission") is considering a public process for the Naramata Substation Project ("Project").

The Company is of the strong belief that a further regulatory process for the Project is not only unnecessary, but will result in significant further delays and cost to its customers. A CPCN was deemed to be granted by Order G-52-05, as confirmed by the Commission's letter dated August 11, 2006 which is attached as Appendix B to this document.

FortisBC's submission is attached.

Sincerely,

David Bennett Vice President, Regulatory Affairs & General Counsel

Introduction

- FortisBC Inc. ("FortisBC" or the "Company") applied to the British Columbia Utilities Commission ("BCUC" or "Commission") for approval of the Naramata Substation Project (the "Project") as part of its 2005 Revenue Requirements, System Development Plan and Resource Plan Application (the "Application"), which included the 2005 Capital Expenditure Plan. Following an oral public hearing reviewing the Application, the Project was approved by way of Order G-52-05.
- 2. On July 13, 2006, the BCUC requested FortisBC to provide information on the Project in response to comments from a number of area residents opposing the substation site selected by the Company. FortisBC has provided a number of information updates in the intervening period, including an assessment of other potential sites suggested by interested parties, and on March 15, 2007 informed the Commission of its intention to proceed with construction of the Project at the initially proposed site on Arawana Road.
- 3. FortisBC understands that there has been a number of letters regarding the Project sent to the BCUC regarding the site selection of the Project. For the reasons provided in its previous filings, FortisBC does not believe that a further application or process is required, as a result of these letters or the concerns raised by the stakeholders, nor that any further regulatory process would be in the public interest. The Company is not aware of any new issues raised by stakeholders that have not been considered by FortisBC in its site selection process. Therefore any further regulatory process would simply be a duplication of the process to date.
- 4. The Commission has issued an Order approving the Project, and the Company has acted upon reliance of that Order. There has been no application by any interested party to the BCUC for a reconsideration of the Order nor, if any such application had been made, is there any basis for suggesting that Order G-52-05 should be reconsidered or that the tests

for reconsideration established by the BCUC would be met. It is submitted that only in the most extraordinary of cases should the BCUC, having issued a CPCN for the substation require, on its own motion, a further regulatory process for the same works. Local opposition to the siting of a substation is not of this kind of extraordinary nature.

History of the Naramata Project since Order G-52-05

- 5. Subsequent to the BCUC issuing Order G-52-05, the Company, in reliance upon the order, undertook substantial work in furthering the development of a new substation in Naramata. This section briefly describes the steps undertaken in advancing the Project, commencing in July 2006. Copies of the documents identified below related to site selection are included as appendices to this submission.
- 6. On July 21, 2006, FortisBC responded to the Commission's request for a Report on the Status of the Naramata Substation Project (the "July 21 Status Report"). This report outlined the regulatory history of the project to date and stated that the Company:
 - Identified approximately 20 properties which were considered as possible sites for the substation, and that seven were further investigated;
 - Held discussions with elected community representatives and area residents to identify possible sites;
 - Submitted and was denied an application to the Agricultural Land Commission ("ALC") for non-farm use for a property deemed suitable in terms of terrain and transmission accessibility. There is no appeal process in this matter;
 - Acquired and successfully applied to the ALC for non-farm use of the Arawana Road site, and submitted a rezoning application to the RDOS; and
 - Provided artist's rendering or photographs of the existing substation, the site rejected by the ALC, at the Fire Hall site, and at the Arawana Road site, demonstrating that the visual impact is least at the Arawana Road site.
- On August 11, 2006, the Commission responded to a request from Mr. H. Karow, Mr. K. Brown, and Mrs. J. and Mr. D. Stewart, stating that the Project was part of an application

that was reviewed in an oral public hearing and that FortisBC is deemed to have a CPCN for the Project (Appendix B).

- Also on August 11, 2006, FortisBC responded to the BCUC's Information Request No. 1. The responses:
 - Summarized the site-specific factors used to evaluate potential sites and ultimately leading to its preference for the Arawana Road site;
 - Explained that expropriation of land for rights of way would allow the present land use to continue with minimal impact, while expropriation of land for a substation site would require a fee-simple land purchase; and
 - Described the engineering and operating constraints of the Fire Hall site if the substation were to be constructed there.
- On September 15, 2006, the Company provided further engineering and cost information related to the Fire Hall site and indicated that an update would be provided following discussions with the Ministry of Transportation.
- 10. On October 26, 2006, FortisBC advised that the RDOS' Naramata Advisory Planning Committee ("APC") had assessed the rezoning application for the Arawana Road site and had voted in favour of changing the zoning to allow the substation to be constructed and operated at the Arawana Road site if the Fire Hall site was determined to be unsuitable.
- A Project Update was filed on November 16, 2006, identifying a number of issues requiring input from external parties or agencies required to complete its evaluation of the Fire Hall site.
- 12. On February 14, 2007, FortisBC confirmed by letter that the technical issues related to constructing the substation at the Fire Hall site could be addressed, and that the Company was assessing the cost impacts of the required modifications. FortisBC stated that, if the cost of construction at the two sites was comparable, and if the substation could be adequately screened, an application to acquire the property would be submitted to the provincial government.
- 13. On March 15, 2007, the Company provided information that the design modifications required at the Fire Hall site would increase costs by between \$700,000 and \$1,100,000. The restricted size of the Fire Hall site also gives rise to a number of operational and safety

issues, is limited in its ability for visually screening the substation, and limits the Company's options with regard to meeting future load growth in the area. In consideration of these issues, FortisBC stated its intention to proceed with constructing the substation at the Arawana Road site.

Nature of Opposition to the Arawana Road Site

- 14. A number of area residents have been extremely active in their opposition to the Arawana Road site. Fewer residents have expressed opposition to the Fire Hall site. The Company's decision to proceed with the Arawana site remains unchanged as it is still the site that best addresses the technical requirements of the Project and the concerns raised by stakeholders. The Company notes that opposition to other sites considered in the selection process was also evident, and in fact resulted in the rejection by the ALC of an application to locate the substation at a previously favoured site. It is FortisBC's experience that opposition coalesces once a site is chosen and publicized, and that area residents not in the vicinity of the selected site do not participate in the selection process.
- 15. FortisBC has submitted documentation with regard to capital cost, operational, and aesthetic factors, which in aggregate demonstrate the superiority of the Arawana Road site. Furthermore, the Arawana Road site has a much greater potential for screening of visual impact, compared to the Fire Hall site.

FortisBC Submissions

- 16. FortisBC respectfully submits that further regulatory process for this Project is not required, for the following reasons:
 - a. A CPCN for the Project is deemed to have been granted, as confirmed in the BCUC's letter of August 11, 2006 to Mr. H. Karow, Mr. K. Brown, and Mrs. J. and Mr. D. Stewart. A copy of this letter is included in Appendix C to this submission.
 - b. The Company is not aware of any dispute with regard to the need for the Project.
 FortisBC has undertaken an exhaustive site selection process, reviewing

approximately 20 potential sites, as described in FortisBC's report dated July 21, 2006 (please see Appendix A).

- c. The Company conducted a detailed technical and cost analysis for an alternate site at the intersection of Naramata Road and Debeck Road, which has been referred to as the "Fire Hall" site. The technical, cost and aesthetic implications of constructing a substation at this site are detailed in FortisBC's letter of March 15, 2007, attached as Appendix H.
- d. The requirement for further regulatory process would result in further project delay of several months and significant additional expenditures which, in the opinion of the Company, given the process to date, would not be in the public interest, particularly where there is no material issue requiring further process.
 - e. Substantial work has been undertaken to date in reliance upon Order G-52-05.
 - f. The Arawana Road site will be the subject of a rezoning application before the Regional District of Okanagan Similkameen ("RDOS"). The rezoning process includes an opportunity for public input and FortisBC respectfully submits that this process will allow stakeholders to have their concerns related to site selection heard. FortisBC will also participate in this process.
- 17. FortisBC respectfully submits that there is no basis for disturbing Order G-52-05 as including approval for a new substation in Naramata, and that the BCUC should confirm that FortisBC may continue to rely on the existing CPCN for the substation and proceed with the rezoning application process and, if obtained, construction and operation of the new substation.
- 18. In the event the BCUC determines that some form of further review is required relating to the site for the new substation, the Company submits any further review of the site should not require a further process, such as a CPCN application, as a CPCN has already been granted. As site selection is the only issue, the substantial costs of preparing and filing an application such as a CPCN are not justified or necessary.
- 19. The BCUC has jurisdiction, in these circumstances, under section 82 of the Utilities Commission Act to inquire into the issue of site selection and, accordingly the Company would suggest that the BCUC, if felt necessary, exercise a more limited, cost effective

jurisdiction. Such a process should not include further information requests, and should, at the maximum, consist of oral submissions by interested parties, followed by FortisBC's written response.

Appendices

Appendix A	Report on the Status of the Naramata	July 21, 2006
	Substation Project	
Appendix B	Letter from BCUC to Mr. Karow,	
	Mr. Brown, Mrs. & Mr. Steward	August 11, 2006
Appendix C	Response to BCUC IR No. 1	August 11, 2006
Appendix D	Further Responses to BCUC IR No. 1	September 15, 2006
Appendix E	Update to BCUC regarding the Project	October 26, 2006
Appendix F	Update to BCUC regarding the Project	November 16, 2006
Appendix G	Update to BCUC regarding the Project	February 14, 2007
Appendix H	Letter to BCUC identifying Arawana Road	
	as the preferred substation site	March 15, 2007



Joyce Martin Manager of Regulatory Affairs FortisBC Inc. 1290 Esplanade Box 130 Trail BC V1R 4L4 regulatory@fortisbc.com www.fortisbc.com

July 21, 2006

<u>Via Email</u> Original via mail

Mr. R.J. Pellatt Commission Secretary BC Utilities Commission Sixth Floor, 900 Howe Street, Box 250 Vancouver, BC V6Z 2N3

Dear Mr. Pellatt:

Re: Customer Complaints regarding the Naramata Substation Project

Further to BC Utilities Commission letter dated July 13, 2006 regarding above project please find FortisBC's report attached.

Should you have any further questions or concerns regarding this matter, please do not hesitate to contact me directly.

Sincerely,

(original signed by J. Martin)

Joyce Martin Manager of Regulatory Affairs

cc: List of Complainants

FORTISBC

FortisBC Inc.

Report to the BC Utilities Commission

on

the Status of the Naramata Substation Project

July 21, 2006

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Appendix A

Introduction

FortisBC Inc. ("FortisBC" or the "Company") provides this status report in response to the British Columbia Utilities Commission's ("BCUC" or "Commission") letter of July 13, 2006. The Commission requested information on the Naramata Substation Project ("Project") as approved by way of Order G-52-05, which includes a description of any changes since the approval, and comments with regard to a number of stakeholder complaints about the Project. Several of the stakeholders requested that the Commission undertake a public review of the Project.

The Company submits that further public review of this Project is unnecessary. The Project has previously been reviewed by way of oral public hearing during FortisBC's 2005 Revenue Requirements, System Development Plan, and Resource Plan Application. One of the stakeholders now requesting a hearing on this Project was, in fact, a registered intervenor in the 2005 proceeding. The Company is of the position that the Project is not materially different from that described in its 2005 Application and approved by Commission Order G-52-05. A record of regulatory events related to the Naramata Substation Project is included as Appendix A.

FortisBC recognizes that some Naramata residents are opposed to the selected site. Nevertheless, the Project is required for safe and reliable supply to this growing community. The Company has exercised considerable diligence in the site acquisition and in consultations with representatives of local government and residents, and contends that the selected site is the most suitable in terms of terrain, access to other system facilities, permitted use, minimize impact and overall visibility within the community. The Company will work with stakeholders and investigate ways to mitigate aesthetic concerns.

Background

The Naramata substation is located on the east side of Okanagan Lake, adjoining Penticton. This agriculture-based area is supplied by a single radial 63 kV line from RG

Appendix A

Anderson Terminal station in Penticton. The Naramata load has exceeded the substation capacity and the existing site cannot be expanded. A rebuild of the substation at another site is required to meet load requirements, improve reliability in the area and ensure employee safety.

The Project is required to address capacity and equipment condition. The 2003 winter peak load was 128% of nameplate rating of the existing transformer. In addition, the transformer tapchanger has failed frequently, causing voltage fluctuations beyond the normal range. The general condition of all of the substation equipment is deteriorated due to age.

The Project, as approved, was initially scheduled for construction in the 2005/06 timeframe. Land purchase, site preparation and engineering were to have taken place in 2005. Efforts to acquire a suitable site began in 2003, but acquisition has taken longer than expected. FortisBC has now purchased a site for the new substation, to be designated "Arawana", and is proceeding with the necessary permitting. The acquisition and permitting activities are described in the following section.

The new substation will be fed via 45 Line (63 kV), for a distance of approximately 550 meters. The location of the substation site is shown in Appendix B.

Site Acquisition and Permitting

Between September and December of 2003, a site off of the forestry access road, Smethurst Road was investigated (the "Elliot property"). This site was rejected because of poor access for large vehicles and the distance from the existing transmission and distribution lines. The property has since been sold.

In 2004 the Company investigated a potential site, owned by the Ministry of Transportation ("MOT"), at the intersection of Debeck and Naramata Roads (the "Fire Hall" site). This is the site where the mobile transformer is placed, when required, due to lack of space at the existing substation. The Fire Hall site appeared to have limited space.

In addition, the Company was informed that the time required to process an application for purchase could take up to 3 years with no guarantee of outcome. The Company then began to search the private land base.

Approximately 20 property searches were conducted during 2005. Seven additional notable properties were identified:

- Gibbard property (selected site);
- Kato property;
- Shaske property;
- Shannon property;
- Bloomfield property;
- Brownlee property; and
- Naramata Development Corp. property.

These properties are shown on the map attached as Appendix C.

The Company met with the present owner of the property adjacent to the existing substation site (the "Vukelich property"), but the owner would not consider selling additional property to expand the existing substation facilities. As a result, it became necessary to acquire a new site. The new site must be in an area that would be accessible by the 63 kV transmission system and appropriate for 13 kV feeder egress to the existing distribution system.

A FortisBC representative met with Naramata's elected representative to the Regional District of Okanagan Similkameen ("RDOS"), Mr. Tom Chapman, to discuss the issue and our land needs. The FortisBC representative toured the area with Mr. Chapman and members of RDOS' Advisory Planning Committee. Several potential sites were identified.

Appendix A

Discussion was held with an ad hoc community committee to create project awareness and enlist support. The Company reviewed several sites near the existing station and met with or spoke to several landowners, none of whom were interested in selling property.

An option to purchase agreement was secured from the Gibbard family, and the Company continued to pursue other sites in an effort to secure a second agreement as a fallback option.

An option to purchase was also secured on the north portion of the Kato property (Smethurst and Lyons Road). This site is better situated to the substation requirements because of terrain and transmission accessibility. This became the Company's preferred option, and an application was prepared for submission to the Agricultural Land Commission ("ALC") for non-farm use. Photographic and artists' renderings of the Kato site are included in Appendix D.

Several members of the community around this site organized opposition to this location. FortisBC's Planning Project Manager held several meetings with local residents and the RDOS representative. In an effort to accommodate this group, a third option to purchase was acquired, this time on the south portion of the Kato property. The ALC application was amended and submitted. ALC representatives visited the Kato site, and also the Gibbard location shortly thereafter. The Kato site application was rejected by the ALC.

The ALC application was amended to reference the Gibbard site instead. The ALC approved the application. FortisBC executed the Gibbard site option, and proceeded with the purchase. An application for rezoning has been submitted to the RDOS. Photographic and artists' renderings of the Gibbard site are included in Appendix D.

A neighbourhood meeting was held on June 1, 2006 at the Naramata Centre from 7:00 to 9:30 pm. More than 55 people attended, including landowners, residents, citizen group representatives and local government representatives. A summary of the issues discussed at the meeting was sent to attendees and is attached as Appendix E. Also included in

Appendix A

Appendix E is the Project Backgrounder as well as information on EMFs that was distributed at the meeting.

Transmission Line Route

The new Arawana Substation will be fed by 45 Line at 63 kV, from a point near the intersection of Naramata Road and Arawana Road, a distance of approximately 550 meters. The Company is investigating a direct cross-country line route west of the substation to 45 Line. This route has engineering and aesthetic advantages and is expected to be the least cost option. Consistent with FortisBC's policy and practice, negotiation of fair compensation will be paramount in evaluating this option.

FortisBC has also considered Arawana Road as a route between the substation and 45 Line. This would result in the transmission circuit in addition to two distribution feeders totaling three circuits along Arawana Road. A third distribution feeder will exit the substation in the opposite direction.

Alternate Site

It has been suggested that the Company again review the suitability of the "Fire Hall" site, based on the premise that RDOS may be able to expedite a process to purchase the property from the Province. FortisBC is reviewing the potential to re-engineer the substation, however the parcel of land is transected by both Naramata Road and Debeck Road. The available footprint for the substation is much smaller than required to accommodate the substation.

In addition, the Company notes that this site is prominently located. The substation and transmission lines would be highly visible upon entry to the community, and visual impact mitigation would require a screening wall. FortisBC believes that this site is inferior to the recommended site because of its visibility and size restriction. Photographs of the site are included in Appendix D.

Project Scope Changes

The Commission's Reasons for Decision accompanying Order G-8-06 stated:

"The Commission notes that this project was approved by Order No. G-52-05. The SDP (p. 36) shows a load forecast for the Naramata Substation that suggests a 2010 loading of 8,775 kVA and an ultimate loading of 10, 430 kVA. The Commission expects that if FortisBC has an opportunity to reduce the size of the transformer to match the ultimate loading and save costs as a result, that it will do so and advise the Commission accordingly."

(Appendix A to Order No. G-8-06, Page 9 of 20)

In 2003, FortisBC standardized its distribution station transformer sizes at small (6/8 MVA), medium (12/16/20 MVA) and large (24/32/40 MVA). During the planning stage of Arawana substation, it was determined that based on these standard transformer sizes, the small transformer would only suffice until approximately 2010 and therefore a medium size transformer was specified.

As the Company was procuring new transformers for 2006 projects, suppliers offered a 6/8/<u>10</u> MVA rating, previously unavailable. The additional rating (10 MVA) of the small transformer makes it appropriate for the 10.4 MVA ultimate station loading.

The Company's response to the Commission identified that a savings of approximately \$200,000 would be achieved, and is included in Appendix A. The medium size transformer specified for installation at Arawana had been pre-purchased and delivered, and will now be installed at another substation, most likely the Pine Street (Oliver) Substation.

Appendix A

Project Schedule

As stated, the substation site is the subject of a rezoning application before RDOS. A typical schedule for a similar substation requires approximately 19 weeks for construction, and for this reason it is possible that, even if the rezoning application is approved quickly, a temporary solution will be required to meet the 2006/2007 winter load. FortisBC expects to meet this contingency, if necessary, by installing another available transformer, on a temporary basis, at the site now used for the mobile transformer.

Comments on Stakeholder Complaints

FortisBC is sensitive to the concerns of Naramata residents regarding the substation project. The issues of greatest concern are:

Location of Facilities - The Company has made considerable effort to identify and acquire a suitable substation site. The issues involved and the steps taken are described above. The selected site is the most suitable in terms of size, proximity to system facilities, permitted use and availability. To the extent possible, the visual impact will be mitigated through the use of a tree buffer.

The transmission and distribution lines entering and exiting the substation are recognized as having a significant visual impact, particularly if routed along Arawana Road. As noted above, the Company continues to investigate route options to deal with visual and aesthetic impacts of the transmission and distribution lines entering and exiting the substation.

Property Values - FortisBC recognizes that residents are concerned with the impact on property values in proximity to utility equipment. FortisBC does not believe that the facilities proposed in this project will materially affect the value of adjacent properties. The Company will consider ways to limit visual impact of the substation. Any easements or rights of way required will be compensated appropriately.

- **Electric and Magnetic Fields** ("EMFs") FortisBC shares Health Canada's position on alternative electric and magnetic fields. Health Canada does not consider typical exposures to EMFs to be case for health concern and concludes that typical exposure to EMFs from sources such as power lines and in-home appliances and wiring does not pose a risk to health. EMF levels associated with this project will also be significantly lower than the public exposure guidelines supported by the World Health Organization.
- **Expropriation** Expropriation of land for rights of way is an option legally available to FortisBC. FortisBC makes every effort to reach a satisfactory agreement with landowners, and employs expropriation as a last resort. In this instance, the Company continues to review possible means of reducing the number of poles required to connect the new substation site to 45 Line. However, FortisBC must balance its obligation to serve the community with low cost, safe and reliable electricity with the particular needs and concerns of individual stakeholders.
- **Consultation** This report documents a consultative process involving numerous elected representatives and government agencies, community groups and individuals residing near the prospective substation sites. The consultations began early in the planning stages and have continued throughout the process.

Appendix A - Regulatory History - Naramata Substation Project

In 2004, the Company submitted a long-term planning document, the 2005-2024 System Development Plan ("2005 SDP") in support of its 2005 Capital Expenditure Plan ("2005 CEP").

The 2005 SDP stated that:

The scope of the project involves a complete rebuild of the existing substation, including a new 63/13 kV, 12/16/20 MVA transformer and ultimate accommodation for three distribution feeders, with two distribution feeders connected initially. The new 63 kV and 13 kV switching structures and equipment structures will meet modern clearance standards, and will accommodate mobile substation access and connection. A new control building will house metering, communication and protection equipment.

(2005 Revenue Requirements, Volume 2, Section 3.2.4.2 p. 28)

The 2005 CEP described the Project as follows:

Naramata substation has been identified as one of the legacy stations requiring a rebuild at a new site due to deterioration of the equipment and station facilities and lack of property at the site to accommodate further customer load growth. The mobile substation, which is required for station maintenance and emergency supply, cannot be parked at the existing substation and no further property can be acquired at the existing site. The substation needs excessive rehabilitation of the 63 kV switching facilities, 13 kV switchgear, station civil and station security. This rebuild is required in order to minimize customer outages and to reduce risk of personal injury and equipment failure.

This substation project is planned for the 2005/06 budget for \$3.25 million, split over two years: with \$2 million in 2005 and \$1.25 million in 2006. In 2005, land for the substation site will be purchased, engineering completed, and the site will be prepared for transformer delivery. In 2006, the transformer will be delivered and commissioned.

(2005 Revenue Requirements Application, Volume 1, Tab 9, p 28)

The Project was also described in Appendix 3 of the 2005 CEP (2005 Revenue Requirements Application, Volume 1, Tab 9) and is reproduced below.

2005	Revenue	Requirements
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1	Appendix 3
2	
3	Project Name: Naramata Rehabilitation
4	Cost: \$2.0 million in 2005 (project total \$3.25 million)
5	
6	Executive Summary
7	This project involves a complete station rebuild at a new site due to deterioration of the
8	existing station and the lack of property at that site to accommodate customer load
9	growth.
10	
11	This Project is required to keep pace with the load growth in the area and to improve
12	system reliability. A 63/13 kV, 20 MVA station will replace the existing 5.6 MVA
13	station. An in-service date of November 2006 is planned to avoid risk of voltage
14	problems during the winter of 2006/07.
15	
16	Background
17	The Naramata substation has been identified as one of the legacy stations requiring
18	rebuild due to condition of the equipment and station facilities. This rebuild must proceed
19	in order to minimize outages and reduce risk of personnel injury and equipment failure.
20	The Naramata substation is located in the east side of Okanagan Lake adjoining
21	Penticton. Development in Penticton area has been generally weak during the last decade.
22	However, load growth during the past two years has averaged nearly 4%, and steady load
23	growth is expected to continue for several years due to the commercial growth in
24	Penticton.
25	
26	The substation needs excessive rehabilitation of the 63 kV switching facilities, 13 kV
27	switchgear, station civil and station security.
28	
29	The substation switch structures and equipment structures have degraded to the point
30	of being unsafe. They are mounted on timbers that have deteriorated and have shifted

November 26, 2004

2005 Revenue R	equirements
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1	out of alignment creating a high-risk condition for switching failure. The present
2	switching configuration results in inflexible operation.
3	• The station ground grid and security fence are substandard and in need of repair.
4	• Existing switching arrangement does not allow for proper switch maintenance.
5	• Existing 63 kV bus work does not meet present clearance standards.
6	• The mobile substation which is required for station maintenance and emergency
7	supply, cannot be parked at the existing site and no further property can be acquired
8	at existing site. A temporary site on Ministry of Transportation and Highways road
9	allowance near Naramata substation site has been used for the mobile substation.
10	• Existing transformer tap changer has failed frequently as evident from customer
11	voltage complaints and has reached end of life based on a recent maintenance
12	inspection. The tapchanger is locked out of service to avoid catastrophic failure.
13	Station Condition Assessment has identified auxiliary equipment structures such as
14	the station service transformer as being unsafe and requiring immediate replacement.
15	
16	Project Description
17	The project consists of a complete station rebuild at a new site due to lack of property for
18	expansion purposes.
19	
20	Engineering Design and Capacity
21	The new capacity of the substation (20 MVA), exceeds foreseeable load requirements for
22	the next 15 years. The major project components are:
23	
24	• A 63 kV / 13 kV, 20 MVA transformer
25	• 2 feeders at 13 kV with provision for third
26	 Control building to accommodate metering and communications

November 26, 2004

2005 Revenue Requirements

1 Capacity

5

- 2 The 2003/4 winter peak of 7200 KVA was 128% of nameplate rating (5600 KVA) for the
- 3 Naramata T1 transformer. The chart below further demonstrates the positive growth in
- 4 the past few years.





November 26, 2004

2005 Revenue Requirements	2005 Capital Plan Appendices - Tab 9
Pros:	
Lower cost	
Resolves safety issues (grounding)	
Cons:	193
• Lack of property prevents mobile s	sub access for emergency backup and
maintenance.	
 Lack of property prevents abitlity t 	to add feeders in future.
Financial Analysis/ Assumptions Used	
Cost of the project assumes sufficient prop	perty can be acquired for \$250,000.
Option Selected	
Option 1 is selected. Option 2 does not pro-	ovide capacity for anticipated future load
growth.	
Implementation Process	
Installation is to be completed prior to win	ter peak 2006.
Risks	
The condition of the equipment and ground	ding present a safety risk to personnel and the
public.	
There is a high risk of continued customer	complaints due to poor voltage control as a
result of failed equipment (transformer tap	changer).

November 26, 2004

By way of Order G-52-05, the Commission approved all capital projects listed in the 2005 CEP, except for four projects for which FortisBC was directed to submit CPCN applications (The Big White Supply, East Osoyoos Source, Kettle Valley Distribution Source, and Distribution Substation Automation projects).

In August 2005, the Company filed its 2006 Capital Expenditure Plan ("2006 Capital Plan") for approval. Included in that filing was the 2006 System Development Plan Update ("2006 SDP Update") which was an update to the 2005 SDP.

2006 SDP Update stated that:

The priority and schedule of the Naramata project is unchanged. The demand on the existing Naramata station transformer dropped from 128% of nameplate in 2004 to 115% of nameplate in 2005 due to winter temperature moderation in 2004/05 compared to 2003/04. The forecast demand for 2006 is 131% of T1 nameplate. With the station tapchanger non-functional, voltage regulation is being provided by SCC control of the 63 kV transmission at RG Anderson. With manual control, voltage regulation continues to be a problem at this location. Property acquisition has taken longer than expected, however, it is anticipated that the new substation will be in-service by early 2006 as currently scheduled in the system plan. Minor distribution alterations including off load adjustment of the existing Naramata tapchanger and installation of feeder regulation will be completed during 2005 to provide interim voltage improvement for the 2005/06 winter loading period.

(2006 Capital Expenditure Plan Application, SDP Update Section 2.1.2.2 (a) p 8)

The Commission's Reasons for Decision accompanying Order G-8-06 stated:

"The Commission notes that this project was approved by Order No. G-52-05. The SDP (p. 36) shows a load forecast for the Naramata Substation that suggests a 2010 loading of 8,775 kVA and an ultimate loading of 10, 430 kVA. The Commission expects that if FortisBC has an opportunity to reduce the size of the transformer to match the ultimate loading and save costs as a result, that it will do so and advise the Commission accordingly."

(Appendix A to Order No. G-8-06, Page 9 of 20)

FortisBC's response is attached.

FORTISBC

Joyce Martin Manager of Regulatory Affairs FortisBC Inc. 1290 Esplanade Box 130 Trail BC VIR 4L4 Ph: 250 368 0319 Fax: 866 605 9431 Joyce.Martin@fortisbc.com www.fortisbc.com

May 15, 2006

Mr. R.J. Pellatt Commission Secretary BC Utilities Commission Sixth Floor, 900 Howe Street, Box 250 Vancouver, BC V6Z 2N3

Dear Mr. Pellatt:

Re: Arawana (Naramata) Substation Project

Commission Order G-52-05 approved a project to rebuild FortisBC Inc.'s ("FortisBC" or the "Company") Naramata substation at a new site (the "Project") due to deterioration of the equipment and facilities and a lack of property at the existing site to accommodate further customer growth.

The Company forecast area load to reach 10.4 MVA within its long term planning horizon. Based on standard transformer sizes (6/8 MVA, 12/16/20 MVA and 24/32/40 MVA), the Company planned to install a medium (12/16/20 MVA) transformer at the new substation, to be designated the Arawana Substation.

FortisBC's 2006 Capital Expenditure Plan was approved by way of Order G-8-06. In its Decision accompanying the Order, the Commission considered the proposed sizing of the transformer for the previously approved Project, and directed that

"... if FortisBC has an opportunity to reduce the size of the transformer to match the ultimate loading and save costs as a result, that it will do so and advise the Commission accordingly."

Pursuant to Order G-8-06, FortisBC advises the Commission that, in the process of procuring new transformers for various 2006 projects, transformer suppliers offered an additional size, rated 6/8/10 MVA. The additional rating of 10 MVA is capable of meeting the 10.4 MVA ultimate station loading for the Naramata area.

.../2

Arawana (Naramata)	Substation Project	Page 2
Alawana (Ivalamata)	Substation roject	1 ago

The 12/16/20 MVA transformer intended for the Arawana substation will be re-assigned to the Company's Pine Street Transformer (T1) Replacement Project, which was approved via Commission Order G-8-06. The net effect of re-assigning the 12/16/20 MVA transformer to Pine Street and the downsizing of the Arawana transformer is estimated to be a reduction of approximately \$200,000.

Please contact the undersigned if the Commission has any questions regarding this matter.

Yours truly,

(original signed by L. Humphrey for J. Martin)

Joyce Martin Manager of Regulatory Affairs



Appendix A



Appendix C - Sites Evaluated for Naramata Substation Project



Appendix D - Site Photographs and Renderings

Existing Substation fronted by North Naramata Road





Rendition of Substation at Kato Site including tree buffer

Fronted by Smethurst Road





Rendition of Substation at Gibbard (Selected) Site including tree buffer From Arawana Road

From Arawana and Debeck Roads



Photographs of Fire Hall Site on Crown Land From Naramata Road



From Debeck Road



Appendix E - Letter to participants at June 1, 2006 Neighbourhood Meeting

FORTISBC

FortisBC Inc. 1290 Esplanade P.O. Box 130 Trail, BC V1R 4L4

Date here

Address here

Address here

Dear «FirstName» «LastName»:

Thank you to everyone who came out to share views, ask important questions, and listen to information on the proposed Naramata Substation Project at the FortisBC neighbourhood meeting held from 7:00pm to 9:30pm on June 1, 2006 at the Naramata Centre. Over 55 people attended, including landowners, residents, citizen group representatives and local government.

The meeting was held to inform local residents in the Arawana Road area about FortisBC's proposal to construct a new substation on a site known locally as the "Gibbard Property," just west of Arawana and Debeck roads in Naramata, and to discuss line routing options to connect the proposed substation to the existing transmission and distribution system on Naramata Road.

We heard you express your views and ideas on a number of issues, and while some questions require a one-on-one response or more complex information than we can provide in this letter, we have summarized key issues and responses below:

· Notification of residents

Residents indicated they felt FortisBC could have informed them earlier in the process what parcels of land were under consideration for the new substation site and suggested FortisBC could have held an earlier meeting and/or corresponded with area residents closest to the potential substation sites, allowing residents a chance to provide more input earlier to local government, FortisBC and the BC Utilities Commission (BCUC).

Response: FortisBC strives to balance the need to keep you informed with the need to ensure we present the public, our partners and our stakeholders with accurate information based on real options that hold some certainty. Often FortisBC is able to present a number of firm options to the public for information and comment as part of a project. In the case of Naramata, only one potential substation site of six that were examined proved possible for substation construction and met necessary environmental, BCUC, and engineering criteria and was available for sale. We are acutely aware that local residents need to know what is happening in their neighbourhoods, and would like any project planning process to consider your views and comments. FortisBC is committed to keeping you informed. The neighbourhood meeting held in Naramata on June 1, 2006 was precisely for that purpose.

FortisBC also keeps local government informed at all key points during project planning, including when any given site is up for consideration for a substation or other electrical system infrastructure project. FortisBC feels this process of involving your local government representatives from the outset is one important way to keep the public informed while allowing FortisBC to confirm what sites are in fact options for substation construction before presenting those options to the public for input, response, review, or general information. Residents will have opportunity for further comment during an upcoming zoning hearing to be advertised by the Regional District of Okanagan Similkameen.

• Electric and Magnetic Fields (EMF)

Several attendees expressed concern about EMF and the safety of building a substation and new transmission lines close to a residential area.

Page 1 of 3

Response: FortisBC is aware that any topic related to human health and potential risk is important to its customers and to residents in areas where FortisBC operates. Health Canada does not consider typical EMF exposures from powerlines or substations to be cause for health concern FortisBC shares this view. EMF levels associated with this project will also be significantly lower than the public exposure guidelines supported by the World Health Organization.

FortisBC ensures all new projects meet industry and Health Canada safety guidelines regarding distance of substations and lines from residences and businesses and relies upon the mainstream, peer-reviewed science of Health Canada and the World Health Organization for ongoing research about EMF. FortisBC recommends that you take time to read about EMF. We also encourage you to verify the soundness of any information about EMF, particularly on the Internet, by looking for peerreviewed material and material that the larger scientific community supports as good science. We've included a list of recommended sites at the end of this letter.

Property Values and Substation Proximity

Residents closest to the substation site expressed concern that their homes would drop in market value as a result of substation construction on our preferred site on the Gibbard property. Two residents suggested FortisBC purchase a site known locally as "the old Fire Hall" now owned by the BC Ministry of Transportation and use this for the new substation instead.

Response: Experience of qualified property experts familiar with past transmission and substation projects indicates that proximity of a substation is not a significant factor in a buyer's decision to purchase or not purchase a home, particularly if a substation is built with visual quality in mind, using vegetation and/or a wall as a buffer. FortisBC did consider the "old Fire Hall" site during its analysis of 6 locally available properties potentially suitable for the new Naramata Substation. The Ministry of Transportation is reluctant to sell the property. In addition, even if this site was currently for sale, the government disposal process is in the order of three years, which would leave the Naramata area with an unreliable power supply for too long.

Visual Quality and Transmission Lines

Two residents said they believe burying the entire transmission and distribution system in the Naramata area underground would not only look better, but be safer and more economical for all customers and residents in the long run, and asked FortisBC to consider doing this.

Response: FortisBC is committed to working with its engineers and with any affected resident to build structures that are as unobtrusive and as few in number as possible. However, in the absence of a compelling engineering or safety reason, FortisBC installs overhead systems unless a third party is willing to pay for the increased cost of underground facilities. The cost of any project in a particular area such as Naramata is borne by customers across the service territory in the Boundary, South and Central Okanagan, and West Kootenay. Extensive underground work that lacks any engineering or safety justification is completely beyond the scope of this project.

Next Steps

At the request of those who attended the June 1st meeting, FortisBC will hold a field trip for anyone interested in seeing the proposed site and possible line routes.

Event:	Field trip to proposed substation site
Date/Time:	June 29, 6:00pm
Place:	Gibbard property - just west of Arawana and Debeck roads in Naramata

Page 2 of 3

Please wear comfortable, supportive footwear; dress for the weather; and be sure to stay with the FortisBC Project Team during the tour.

We will continue to keep you informed about the proposed Naramata Substation Project. If you have questions or would like more information, please contact us.

Sincerely,

6

Keith Sones, Senior Project Manager, System Planning

For more information on EMF, please consider the following web sites:

BC Centre for Disease Control: Radiation Protection Service http://www.bccdc.org/content.php?item=57

Health Canada, Consumer & Radiation Protection Bureau http://www.hc-sc.gc.ca/english/iyh/environment/magnetic.html

World Health Organization (WHO) EMF Information Project http://www10.who.int/peh-emf/database.htm

National Institute of Environmental Health Sciences (NIEHS) EMF RAPID Program http://www.niehs.nih.gov/emfrapid/home.htm

Page 3 of 3
Information Provided at Neighbourhood Meeting

FORTISBC

Naramata Substation Replacement Project

Project Backgrounder

System Development Plan

- The Naramata Substation Replacement Project (Naramata Project) is part of the FortisBC System Development Plan (SDP)
- The SDP includes \$500 million in electrical system upgrades and improvements across the entire FortisBC Service Territory to take place from 2006 through 2010.
- The Naramata Project was approved by the BCUC as part of the 2005 capital plan.
- Electrical system improvements are planned for the West Kootenay, Boundary and South and Central Okanagan.
- All projects are necessary to address system reliability, capacity and safety.
- Planned projects include a total of 10 new substations and numerous substation upgrades, 2 new terminal stations, major transmission line reinforcements and upgrades between Oliver and Penticton, and new transmission lines and upgrades in the West Kootenay, Okanagan and Boundary regions.

Naramata Project Rationale

- FortisBC has an obligation to serve its customers, which includes providing safe, reliable power to all residents of Naramata
- The Naramata Project is required to meet the existing and future demand for electricity in the Naramata area.
- Residential and agricultural growth in Naramata is moderate and expected to continue.
- The existing substation is insufficient to provide current and future power requirements in Naramata and must be replaced.
- Upgrading the existing substation is not an option because even with possible upgrades it would fail to meet basic FortisBC engineering criteria.
- The only feasible option is to construct a new substation and necessary lines to transmit power to the local electrical distribution system to maintain reliable power to Naramata homes and businesses.
- To meet engineering requirements and remain within approved parameters set out in the SDP, the new substation and line must be located on a suitable site close to the existing transmission and distribution system in Naramata.

Page 1 of 2

Naramata Substation Site

- FortisBC examined 6 potential sites for the new substation.
- Successful site criteria considered include land availability (land is either currently for sale or the owner shows a willingness to sell, and/or eligible for removal from the Agricultural Land Reserve), station constructability, number of directly impacted residents or landowners in the immediate area, cost, engineering requirements including proximity to existing transmission and distribution systems.
- The site selected met the greatest number of site criteria among the 6 sites reviewed
- FortisBC has consulted with the Naramata Advisory Planning Committee of the Regional District of Okanagan Similkameen and the Agricultural Land Commission to discuss site selection and inform regional public representatives of the project.

General Project Facts

- FortisBC is aware from past meetings with residents across its Service Territory that few
 people want a substation near their neighbourhood or place of business, and that given
 the choice many residents would rather not see substations or power lines at all.
- FortisBC is not able to meet its legal obligation to provide safe, reliable, and cost effective
 power to its customers without maintaining and upgrading its electrical systems. This
 includes construction of new substations and lines close to where that power is required.
- FortisBC is committed to working with residents to reduce the impact of its projects wherever possible, including measures to reduce visual impact.
- The cost of any FortisBC project is borne by customers across the Service Territory This
 means that a portion of the cost of a project to provide your community or neighbourhood
 with power is paid in equal part by customers in the Kootenays, Boundary and Okanagan
 and vice versa.
- FortisBC is committed to keeping its customers informed of projects in their neighbourhoods and near their homes or businesses. We also invite your comments and can provide available information upon request.

More Information

For more information on this or any FortisBC project or to comment, please contact us:

Phone: 250-368-0341 or toll-free in North America 1-866-4FORTIS (1-866-436-7847)

- Fax: 250-368-0303
- Email: projects@fortisbc.com

Web: www.fortisbc.com FortisBC Inc. Mail: Attention: Projects 1290 Esplanade Trail, BC Canada V1R 4L4

Page 2 of 2

FORTISBC

Electrical & Magnetic Fields (EMF)

Electric and magnetic fields are invisible forces that surround electrical equipment, power cords, and wires that carry electricity, including indoor appliances, house wiring, and outdoor power lines. You cannot see or feel EMF.

FortisBC shares the Health Canada position on alternating electric and magnetic fields or EMF. Health Canada does not consider typical exposures to EMF to be cause for health concern and concludes that typical exposure to EMF from sources such as power lines and in-home appliances and wiring does not pose a risk to health.

FortisBC is sensitive to customer concerns, including any about EMF. We are committed to transparent communication about EMF levels, and we want you to be informed.

FortisBC has investigated EMF levels on existing lines, and found that building transmission lines over existing distribution lines can reduce existing magnetic field levels. This is expected to be the case for the power line route from Arawana Road to the new Naramata Substation. EMF levels associated with this project will also be significantly lower than the public exposure guidelines supported by the World Health Organization.

More Information

- Visit Health Canada at <u>www.hc-sc.gc.ca</u> and navigate to Electrical and Magnetic Fields. Health Canada provides easy-to-understand information on all aspects of EMF.
- Visit the World Health Organization website at <u>www.who.int/en</u>. The WHO provides comprehensive information on the extensive research that has taken place on the subject of EMF.
- Explore other sites on the Internet or research the topic in your local library. Please keep in mind that to be informed, it is important to take time to understand the science behind research on EMF and the quality of that science and research.
- As with any topic concerning health and safety, fear of risk is understandable, and can also lead to exaggeration of that risk. Self-proclaimed experts on the topic of EMF may not be the best source on which to base an informed decision. Leading authorities on the topic of EMF and scientists respected and recognized among their peers engage in ongoing research at the World Health Organization and Health Canada as well as through US Environmental agencies and organizations. A great deal of excellent research exists on EMF. Be sure to investigate the legitimacy of all information sources.
- If you are curious about levels of EMF in your home and around your neighbourhood, learn how
 to use a gauss meter and take your own measurements. FortisBC can provide a gauss meter for
 short durations depending upon equipment availability.

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SIXTH FLOOR, 900 HOWE STREET, BOX 250 VANCOUVER, B.C. CANADA V6Z 2N3 TELEPHONE: (604) 660-4700 BC TOLL FREE: 1-800-663-1385 FACSIMILE: (604) 660-1102

Log No. 15713, 15715, 15716, 15718

ROBERT J. PELLATT COMMISSION SECRETARY Commission.Secretary@bcuc.com web site: http://www.bcuc.com

VIA E-MAIL heartwork@hotmail.com hkarow@shaw.ca lavenderlane@shaw.ca

August 11, 2006

Mr. Hans Karow Coalition to Reduce Electropollution (CORE) M2/C14 1215 Poplar Grove Road Penticton, B.C. V2A 8T6 Mr. Kevin Brown 110 English Bluff Road Delta, B.C. V4M 2M8

Mrs. June & Mr. Dan Stewart Lavender Lane Guest House 3005 Debeck Road Naramata, B.C. V0H 1N0

Dear Mr. Karow, Mr. Brown and Mr. & Mrs. Stewart:

Re: FortisBC Inc. ("FortisBC") Naramata Substation Project

This is in response to your recent letters requesting clarification whether FortisBC has a Certificate of Public Convenience and Necessity ("CPCN") for the Naramata Substation Project and requesting that the Commission issue a "cease work" order pursuant to Section 47 of the Utilities Commission Act (the "Act") with respect to the project. The letters also request that the Commission schedule a public hearing in Naramata on the matter and provide Participant Assistance/Cost Award ("PACA") funding for Naramata residents with respect to a review of the matter.

As FortisBC discussed in its July 21, 2006 Report, the Naramata Substation Project was included in the 2005 Capital Expenditure Plan that formed part of the 2005 Revenue Requirements, System Development Plan and Resource Plan Application that was reviewed in an oral public hearing. Commission Order No. G-52-05 approved all capital projects in the 2005 Capital Expenditure Plan except for four projects, for which FortisBC was directed to submit CPCN application. The Naramata Substation Project was not one of these four projects.

Section 45(2) of the Act states that a public utility is deemed to have a CPCN to contract and operate extensions to a public utility system or facility that it is operating, unless pursuant to Section 45(5) the Commission orders that Section 45(2) does not apply in respect of the extension. As the Commission has not made an Order requiring a CPCN application for the Naramata Substation Project, FortisBC is deemed to have a CPCN for the Project.

With regard to your other requests, the Commission has asked FortisBC for additional information regarding the Naramata Substation Project, and FortisBC has indicated it will provide some of the information and a progress report by August 11, 2006.

The Commission will determine what other action it should take, if any, after it has reviewed the responses to its questions.

Yours truly,

Robert J. Pellatt

JBW/yl

 cc: Mr. David Bennett General Counsel and Corporate Secretary FortisBC Inc.
 Ms. Joyce Martin Manager of Regulatory Affairs FortisBC Inc.



Joyce Martin Manager of Regulatory Affairs FortisBC Inc. 1290 Esplanade Box 130 Trail BC V1R 4L4 Ph: 250 368 0319 Fax: 1 866 605 9431 Joyce.Martin@fortisbc.com www.fortisbc.com

August 11, 2006

<u>Via Email</u> Original via mail

Mr. R.J. Pellatt Commission Secretary BC Utilities Commission Sixth Floor, 900 Howe Street, Box 250 Vancouver, BC V6Z 2N3

Dear Mr. Pellatt:

Re: Naramata Substation Project Information Request No. 1

Please find attached FortisBC Inc.'s response to the Commission's Information Request dated July 28, 2006.

As stated in FortisBC's letter dated August 4, 2006, some of the information requested is not presently available. This information relates to substation and line configuration and cost estimates to construct the new substation at either the existing Naramata Substation site or at the proposed Fire Hall site. Because of the constrained size of these two sites, further engineering analysis is required, and is currently underway.

Information remains to be submitted specifically for questions 1.1, 2.1, 4.3, 4.4, and 6.1. FortisBC will provide this information no later than September 15, 2006.

Yours truly,

Joyce Martin

Joyce Martin Manager of Regulatory Affairs

cc: Interested Parties - Naramata Substation Project

1	1.0	FortisBC Report dated July 21, 2006, p.3
2	Q1.1	On page 3, the FortisBC Report states that the selected site is the most suitable in terms of
3		terrain access to other system facilities, permitted use, minimization of impact and overall
4		visibility. Please identify the other sites that FortisBC included in the comparison and
5		provide a copy of the schedule that FortisBC used to summarize the comparison based on
6		these factors, and other factors, including the cost of the Naramata Substation Project.
7	A1.1	Commencing in 2003, FortisBC undertook a search of available land in the Naramata area in
8		preparation to proceed with required replacement of the existing Naramata Substation. Certain
9		parameters were used to evaluate the suitability of the land parcels, which included:
10		• Proximity to 45 Line, which is the 63 kV transmission source. This is important in that the
11		greater the distance a site is from 45 Line, the greater the construction costs and landowner
12		impacts for the associated transmission and distribution circuits;
13		• Whether the land was currently available for sale or, if not, whether the landowner was
14		interested in selling;
15		• Cost;
16		• Size of parcel;
17		• Whether the land is suitable from an engineering perspective; and
18		• Impact on other infrastructure and landowners.
19		The search process yielded several prospective properties which were evaluated against these
20		criteria. These properties, their benefits and disadvantages, investigation chronology and
21		ultimate project suitability are described below. The properties are identified by the name of the
22		current owner:
23		1. Elliot;
24		2. Fire Hall site of Ministry of Transportation;
25		3. Vukelich (existing substation site);

	Commission Inf	formation Request	No. 1 to Fo	rtisBC	Request Date: July 28, 2006 Response Date: August 11, 2006
1	4. Sha	nnon;			
2	5. Blo	omfield;			
3	6. Sha	ske;			
4	7. Bro	wnlee;			
5	8. Kat	o; and			
6	9. Gib	bard.			
7	A map	has been include	d for refere	ence, showing the locati	ons of each of the properties relative
8	to each	other and the 45	Line 63 k	V transmission source.	The map, previously filed as Appendix
9	C of Fo	ortisBC's report of	of July 21,	2006, is attached as App	pendix 1.
10	1.	Property Inves	tigated:	Elliot	
11		Location:	Adjacent	to the 73 Line right of v	vay east near the junction of the right
12			of way ar	nd Smethurst Road	
13 14		Time period of Investigation:	Decembe	or 2003	
15		Summary:	This land	parcel was suitable from	n an engineering point of view to
16			accommo	odate the substation cons	struction, but it is approximately 1.2
17			kilometer	rs from 45 Line, and off	ered poor access for the mobile
18			substation	n and other large vehicle	es. Transmission and distribution line
19			construct	ion costs would have be	en the greatest for this site compared
20			to all othe	er sites that were evalua	ted.
21		Status:	Rejected	for both operational and	cost reasons.
22	2.	Property Inves	tigated:	Fire Hall (owned by	Ministry of Transportation)
23		Location:	Immediat	tely south of the Narama	ta Fire Hall at the intersection of
24			Naramata	a Road and Lower Debe	ck Road
25 26		Time period of Investigation:	2004		

1		Summary:	The site is adjacent to 45 Line and has been used as a location for the
2			mobile substation for several years. Although at first glance it appears
3			to be an ideal substation location, the Ministry of Transportation
4			indicated that their land disposal process can take up to three years and
5			did not guarantee that a sale offer would be accepted. The site is also
6			not as large as preferred. The Ministry of Transportation requires
7			minimum setback distances from roadways which will limit the amount
8			of land available for construction.
9			Recently FortisBC has been informed by the Naramata representative
10			to Regional District of Okanagan Similkameen ("RDOS") that he is
11			willing to support an application to purchase or lease the land near the
12			Fire Hall. FortisBC is currently determining whether a substation can
13			be reasonably constructed on that site, and a portion of the land is
14			already leased by the Ministry of Transportation to RDOS. However, if
15			the station can be physically constructed on that site, a public
16			consultation process and application to the Ministry of Transportation
17			will be activated. It is not known whether the support of the RDOS
18			representative, of RDOS itself or of other individuals or organizations,
19			if forthcoming, would be sufficient to expedite the review by the
20			Ministry of Transportation of an application. FortisBC would have
21			concerns about its ability to continue supplying Naramata using
22			temporary facilities.
23		Status:	Under investigation. FortisBC will provide an update on this option by
24			September 15, 2006.
25	3.	Property Invest	tigated: Vukelich (location of the present substation site)
26		Location:	North Naramata Road at the site of the existing substation
27 28		Time period of Investigation:	2005

1		Summary:	The owner of the site does not wish to sell, and there have been
2			indications that at least one local landowner who lives adjacent to the
3			property is adamantly opposed to siting a new substation near his land.
4			A new route for a future third distribution feeder would also have to be
5			sought, possibly across private land as Naramata Road is already
6			encumbered with the 45 Line transmission circuit and two distribution
7			feeders.
8		Status:	Rejected.
9	4.	Properties Inve	stigated: Shannon, Bloomfield, Shaske and Brownlee
10		Location:	Approximately 1 kilometer east of 45 Line along Smethurst Road.
11		Time period of	
12		Investigation:	2005
13		Summary:	These four properties are located beside one another in a hillside
14			subdivision. Three of the four property owners were unwilling to sell.
15			The Brownlee property did become available, but the asking price was
16			excessive.
17		Status:	Rejected due to unavailability and/or excessive cost.
18	5.	Property Invest	igated: Kato (initial preferred location)
19		Location:	Approximately 200 meters east of 45 Line along Smethurst Road.
20		Time period of	
21		Investigation:	2005
22		Summary:	This land parcel is quite flat and consists of a producing orchard. The
23			landowner was willing to sell the 2.5 acre plot and given the relatively
24			short distance to 45 Line, transmission and distribution connection
25			costs would have been relatively low. An application was made to the
26			Agricultural Land Commission ("ALC") for a non-farm use permit, but
27			this application was denied due to the existing orchard use of the land.

1			Since there is no appeal process that exists, this site was abandoned.
2			This site was also subject to public opposition, which seemed to
3			influence the ALC decision.
4		Status:	Rejected due to unsuccessful ALC permit.
5		6. Property Invest	igated: Gibbard (subsequent preferred site)
6		Location:	Near the intersection of Arawana and Debeck Roads, approximately
7			550 meters from 45 Line.
8 9		Time period of Investigation:	2005
10		Summary:	This property is in the Agricultural Land Reserve but is not currently
11			being used for agricultural purposes. A price was negotiated and the
12			land was acquired by FortisBC. The non-farm use application to the
13			ALC was approved. The transmission and distribution connection costs
14			are considered reasonable. The site remains the preferred site of
15			FortisBC, although there is some local public concern about the
16			installation of the substation. A zoning application has been made to
17			RDOS.
18		Status:	Preferred site.
19		Additional information i	is provided on pages 4, 5 and 6 of FortisBC's report dated July 21, 2006.
20	2.0	FortisBC Report dated	l July 21, 2006, p.4
21	Q2.1	Further to the statemer	nt on page 4 that the existing site cannot be expanded, and that the
22		Fire Hall site appears t	to have limited space, please provide the dimensions and area of each
23		of the existing substation	on site, the Fire Hall site and the proposed Gibbard site.
24	A2.1	The approximate proper	ty dimensions of each of the sites are as follows:
25		Existing site dimensions	: 13.4 meters by 25.9 meters (45 feet by 84 feet).
26		Fire Hall site dimension	s: 35 meters by 45 meters. The property includes a section leased by

1		RDOS from the Ministry of Transportation.
2		Gibbard site dimensions: 80 meters by 155 meters.
3		The area within each property that is available for construction is less than the nominal property
4		dimensions. For example, the Ministry of Transportation requires setbacks from road centerline
5		- a minimum of 12 meters in the case of Naramata Road and 10 meters from Lower Debeck
6		Road. These distances may be increased where drainage ditches and slopes are involved. The
7		Gibbard property has more than adequate space for construction, vehicle access and
8		transmission/distribution line access and egress. FortisBC has undertaken a survey to determine
9		the available area at the Fire Hall site and is evaluating its adequacy for locating the substation.
10		The information will be provided no later than September 15, 2006.
11	Q2.2	Please discuss the area required for the proposed rebuilt Naramata Substation in normal
12		circumstances, and identify additional area that may be needed or desirable for future
13		expansion, location of a temporary transformer or other purposes.
14	A2.2	The area required for the proposed substation is approximately 40 meters by 50 meters including
15		the required perimeter safety zone. The substation design includes a single transformer with
16		provision for a mobile transformer. This basic configuration will be adequate for the planning
17		horizon and no future expansion is presently envisaged. In addition to the substation area, safe
18		access for the mobile substation and other vehicles from the main road is also required.
19	Q2.3	Please discuss the constraints that determine the minimum site areas that would be
20		feasible, including the cost impact of designing and building the substation in a more
21		confined area.
22	A2.3	In order to determine the minimum site area for the planned substation, there are two primary
23		criteria that must be satisfied. These are employee and public safety and operating clearances
24		1. Employee and Public Safety
25		The main potential hazard in a substation is the presence of energized high voltage
26		equipment. The most common and effective protective method is to ensure adequate
27		clearance distance between the people and the equipment. This dictates that a distance of

- 1at least ten feet from all 63 kV energized parts must be maintained in all cases.2Additional distance is also used to account for inadvertent movement, the use of3uninsulated tools, etc. Much of the area of a substation is dedicated to maintaining these4distances from the electrical equipment.
- 5 The presence of vehicles in a substation must also be accounted for when considering 6 design. Vehicles, such as cranes, a mobile substation and test equipment trailers must be 7 able to access the apparatus without violating the minimum safe distances. As an 8 example, the site needs to accommodate the maximum vehicle width, turning radius and 9 door opening area.
 - 2. **Operating Clearances**

10

- Each piece of equipment that may enter the site needs to be considered when defining the minimum site size. The mobile substation must fit in the site with adequate room to safely connect it to the bus work. Other equipment that may need to access the site includes overhead cranes for removing and replacing equipment within the substation. Workers must be able to safely access meters and gauges on equipment and open and close disconnect switches.
- 17 The cost of designing and building a substation within a confined area is difficult to 18 quantify specifically as each case is unique. However, generally speaking the cost 19 escalates when a more confined area is considered since specialized equipment tends to 20 cost more, physical dielectric barriers may be required to ensure a safe work 21 environment, solid walls may be needed as retaining walls and physical barriers for 22 public safety, etc. The greatest concern to reducing the standard substation size is the 23 potential compromise of safety standards, since clearance distances may not be adequate.

1	Q2.4	Recognizing that FortisBC proposes to reduce costs by the approximately \$200,000, by		
2		using a 6/8/10 MVA transformer, please discuss the impact on the required substation site		
3		area of going back to a 12/16/20 MVA transformer. How long would a 12/16/20 MVA		
4		transformer meet the projected load growth?		
5	A2.4	A 12/16/20 transformer is oversized and would exceed the projected load growth for the		
6		distribution planning horizon. The larger transformer would have no impact on the substation		
7		site area as sufficient space must be initially established to ensure future station / transmission		
8		system requirements. Because of recent cost escalation would make re-purchasing a larger unit		
9		more costly.		
10	3.0	FortisBC Report dated July 21, 2006, p.5		
11	Q3.1	Page 5 of the report states that the owner of the property adjacent to the existing		
12		substation site would not consider selling additional property. When is the latest occasion		
13		that FortisBC approached the owner of the property? What was the response?		
14	A3.1	The latest occasion that FortisBC approached the property owner was March 4, 2005. The		
15		response was negative. In addition, local residents apart from the landowner have expressed		
16		considerable opposition to the expansion of the substation on the existing site.		
17	Q3.2	How much additional property did FortisBC ask to purchase adjacent to the existing site?		
18		What was the basis for the amount of additional land? Is this still the amount of additional		
19		land that FortisBC believes it would need?		
20	A3.2	The amount of additional property was not defined, as the inquiry received a strong negative		
21		response.		
22	Q3.3	If additional land was required adjacent to the existing site, what Agricultural Land		
23		Commission approval and rezoning would be required?		
24	A3.3	1. "Non-farm use of the land" approval from the ALC.		
25		2. There is currently no zoning within Naramata that allows for electrical substations. Re-		
26		zoning to accommodate light industrial will also require inclusion of substations into the		

1	RDOS zoning language. FortisBC has submitted a rezoning application for the Gibbard
2	property.

A3.4 On page 10, FortisBC states that expropriation of land for right-of-way is an option that is legally available. Please explain any differences between expropriating a right-of-way for the 63kV line from 45 Line to the Gibbard site, and expropriating additional land adjacent to the existing substation site.

A3.4 Right of way expropriation for the 63 kV line from 45 Line to the Gibbard site would only require a statutory right of way ("SR/W") to be acquired, and would still allow the present and existing land use (agriculture) to continue with minimal impact (pole and anchor installation) to that use.

Expropriation of additional land adjacent to the existing site would require a fee-simple land purchase with full use (100% impact) and change from agricultural/residential to light industrial use.

14 Compensation for an SR/W, as would be the case for any land involving solely transmission or 15 distribution lines is the greater of the following two approaches:

- 1. The "Before and After" approach determines the value of a property before the SR/W, and 17 again after it is in place, then determines the difference. This allows for the potential impact 18 on the remainder of the property as a whole and is generally the higher of the two 19 approaches, but not always.
- The "Unit Value" approach uses a value per unit area of the property before the SR/W (i.e.
 dollars per acre) and then applies a percentage to address the impact of the SR/W. This
 percentage has usually been 50% for a new taking, unless there is an unusual condition.

Q3.5 Further to the statement on page 5, that on application to purchase the Fire Hall site it could take up to 3 years with no guarantee of the outcome. Is there some reason which would prevent FortisBC from expropriating the Fire Hall site?

A3.5 It is the Company's legal view that one entity which has a power of expropriation cannot expropriate from another entity that has the same power of expropriation unless it has been

1 2 3		granted an express right to override the other entity's power of expropriation. The West Kootenay Power Act does not provide such an express power. Therefore, the Company cannot expropriate provincial crown land because the provincial crown also has the power of
4		expropriation.
5	A3.6	If the new substation is built at the Gibbard site, what does FortisBC intend to do with the
6		existing substation site? Are the decommissioning costs and property sell value included in
7		the estimated cost of the project?
8	A3.6	FortisBC expects to sell the existing site property. Decommissioning costs are included in the
9		estimated project cost, however the sale value is not included. Sale proceeds realized would be
10		used to offset the project cost.
11	4.0	FortisBC Report dated July 21, 2006, p.4
12	Q4.1	Further to the statement on page 4 that the existing site cannot be expanded, please explain
13		if it is FortisBC's position that the required new substation could not be built on the

existing site. In the response, if working in proximity to operating equipment is a concern,
 please discuss the option of installing a temporary transformer at perhaps the Fire Hall
 site, taking the existing substation out of service, rebuilding the substation on the existing
 site and then commissioning the new substation.

- A4.1 The existing facilities do not meet present clearance standards. To rebuild to current standards
 would require a site with area four times the size of the existing one to accommodate a mobile
 transformer and associated facilities and structures.
- 21 Please also refer to the responses to Q2.1 and Q2.2 above.

Q4.2 Further to the response to the previous question, what would be the cost of rebuilding the substation on the existing site?

A4.2 The substation cannot reasonably be built on the existing site. The present substation abuts North Naramata Road and is elevated above the road surface by several feet. There is no legal access for the mobile substation. Constructing a new substation would require excavation of the

- sloped area from North Naramata Road east, creating the need for significant retaining walls on
 three sides. This would then place the substation in a "pit", requiring additional fencing above to
 ensure public safety.
- 4 To construct a new substation in the immediate area, the current site would have to be decommissioned and a new substation built at a new location on that parcel of land. This would 5 require expropriation of the land parcel large enough to accommodate both road access and the 6 7 substation site itself but would restrict the use of the remaining property. The substation cost is 8 expected to be similar to that at the Gibbard site (some differences may arise from different orientations). Any significant cost differences would result from land acquisition and line work. 9 10 The land surrounding the existing substation is within the Agricultural Land Reserve and is currently agriculturally productive. Although a specific application has not been made to have 11 any of this land designated as "non-farm" use, the ALC did deny a FortisBC application on the 12 Kato property based on the fact that land was productive. It is not certain that an ALC 13 application for non-farm use status on the land adjacent to the existing substation would be 14 15 successful; rather, the contrary is likely.
- Looking forward to the future, a third distribution feeder will be required in the area, likely to serve load in the southeast part of the community. Since Naramata Road is now encumbered with a double circuit overhead line, this third feeder would be required to traverse private lands or be placed on the opposite side of Naramata Road, creating three circuits and two pole lines along the relatively narrow North Naramata Road. The Gibbard site is better situated to accommodate this likely future need.

Q4.3 Please describe the construction that would be needed to connect the rebuilt substation on the existing site to 45 Line and to the distribution feeder, and identify the cost of this work.

A4.3 Subject to the factors cited in the response to Q4.2, the expected costs would be low because of
the existing transmission and distribution lines. The configuration and costs will be provided no
later than September 15, 2006.

Further to the statement that the Fire Hall site has limited space, please discuss the 04.4 1 2 feasibility of rebuilding the substation on this site (and possibly retaining the existing 3 substation site for locating a mobile transformer), and identify the cost of construction at this site. 4 5 A4.4 Using the existing site as a location for connecting the mobile substation is not a feasible option. The current substation site does not have adequate space to accommodate the mobile substation. 6 7 It is possible that a compressed station footprint could be constructed on the Fire Hall site that would also allow the installation at that location. An engineering investigation is underway and 8 9 estimated costs will be available no later than September 15, 2006. 10 A4.5 Please describe the construction that would be needed to connect the rebuilt substation at 11 the Fire Hall site to 45 Line and to the distribution feeder, and identify the cost of this 12 work. Both the distribution feeder system and the 45 Line transmission source are immediately 13 A4.5 adjacent to the Fire Hall site. The distribution circuit would be split into two separate feeder 14 circuits. Wire size may need to be increased for a short distance. The cost is limited to the 15 16 distribution egress, typically a short underground section, required to safely egress the substation 17 that is then connected to the nearby overhead distribution system, and an overhead connection to 18 the transmission line. The expected total cost, excluding any conductor size increase on the distribution system is in the order of \$80,000-\$100,000. 19 5.0 FortisBC Report dated July 21, 2006, pp 6, 7 20

Q5.1 Page 7 of the report describes two alternative routings for connecting 45 Line to a substation at the Gibbard site. For each alternative, please describe the construction that would be needed to connect the rebuilt substation on the Gibbard site to 45 Line and to the distribution feeder, and identify the cost of the work.

A5.1 The two options to provide a transmission tie between 45 Line and the new substation are
 described in greater detail below. For each option, the description includes a transmission line
 and two distribution feeders.

- 11.**Option 1** construct a new transmission tie along Arawana Road and one distribution feeder2under built on that transmission line, and construct the second distribution feeder3underground from the new substation to Naramata Road. The existing distribution tap would4be salvaged and the existing Telus and Shaw equipment would possibly be transferred to the5new structures.
- 6 There are two alternatives for Option 1. The first alternative would have the new line built 7 with single pole wood construction, and would require approximately five anchoring 8 easements along its length. In addition, there are potential conflicts with the existing water 9 main along Arawana Road (primarily with anchoring). The second alternative would use self 10 supporting steel structures and would eliminate the need for the previously noted easements, 11 as well as any potential conflicts with the existing water line along Arawana Road. Under 12 both scenarios, the second feeder would be installed underground.
- 13The construction estimate for the first alternative (wood pole construction) is approximately14\$400,000, excluding the FortisBC share of the cost to relocate the Telus circuit if they elect15to move their facilities off of the 63 kV structures. The construction estimate for the second16alternative (self supporting steel) is approximately \$880,000.
- Option 2 construct a more direct cross country new transmission line from Naramata Road
 (greenfield) to the new substation with one distribution feeder under built on the transmission
 structures. The existing distribution line would remain intact to serve existing customers.
- 20 Option 2 is estimated to cost approximately \$250,000.
- The estimated costs quoted do not include land costs (either for anchoring easements or
 expropriation).

Q5.2 For each route alternative for the 63 kV connection to the Gibbard site, please describe the agreements and approvals that are needed and the status of each agreement and approval. Is it possible that expropriation of land rights may be needed?

A5.2 Option 1 - Arawana Road route. There will be approximately five anchor locations that will
 require land rights to be obtained. Also, FortisBC will require Ministry of Transportation

permits for all construction on Ministry of Transportation rights of way. It is anticipated, 1 2 although not confirmed, that the Ministry of Transportation will provide the approval to 3 construct on the existing road right of way. Option 2 - Greenfield route – A 10 meter wide SR/W will be required from at least two 4 5 property owners. It is likely that expropriation of land rights for the transmission circuit may be required. 6 7 An aerial view highlighting the two optional routes is provided as Appendix 2. 8 05.3 Further to the statement that a direct cross-country route has engineering and aesthetic 9 advantages, and is expected to be the least-cost option, please provide a comparison of the 10 financial and non-financial factors for the two route systems for the 63 kV connection. 11 Reconstruction along the winding Arawana Road results in more dead-end structures and heavy A5.3 12 angles, thereby driving greater anchoring requirements. There are potential conflicts with existing utilities (water, sewer, Telus, Shaw), and potential land issues in obtaining easements. 13 14 Additional brushing will be required along the route, and taller structures are required in part due to the type of construction required to navigate the heavy angles, but also due to the proximity to 15 the road. 16 17 The construction of the direct cross country route results in shorter structures, reduced dead-end 18 requirements and angle structures and reduced anchoring requirements. Construction is easier 19 due to the greenfield route (not having to construct over existing energized lines) and issues such 20 as traffic control are greatly reduced. Aesthetics are improved due to the straight alignment. Third party issues are avoided and service to existing customers during construction is also 21 22 maintained. 23 Further to the statement on page 6, that an application for rezoning has been submitted to **Q5.4** 24 the Regional District of Okanagan Similkameen, what is the status of this application? The application has been submitted and referred by RDOS to the Naramata Advisory Planning 25 A5.4 Committee for comment. This Committee is scheduled to meet to review the re-zoning 26 27 application on August 15, 2006.

1	Q5.5.1	Further to the statement on page 6 that the Kato site application was rejected by the ALC,
2		was a proposed "land reserve" swap with the current site a part of the application?
3	A5.5.1	Both properties are in the ALR therefore no "swap" is possible. Abandonment of the current
4		property would not change the current ALR status.
5	Q5.5.2	2 If not, why not?
6	A5.5.2	Please see the response to Q5.5.1 above.
7	6.0	FortisBC Report dated July 21, 2006, pp 8, 11
8	Q6.1	The Naramata Substation Project as approved by Order No. G-52-05 has an estimated
9		capital cost of \$3.25 million, which FortisBC proposes to reduce by \$200,000 to \$3.05
10		million by using a smaller 6/8/10 MVA transformer. Please provide updated cost estimate
11		for the substation rebuild project at each of the Gibbard site, the Fire Hall site, the existing
12		substation site and the existing substation site with the acquisition of additional land
13		adjacent to the site. Please break-out the cost for each option as between the substation
14		costs and the cost of connecting the rebuilt substation to 45 Line and to the distribution
15		feeders.
16	A6.1	The cost estimate for the substation rebuild project at the Gibbard site, the Fire Hall site and the
17		existing substation site with the acquisition of additional adjacent land is being investigated and
18		as advised, breakdown of costs for each option will be provided no later than September 15,
19		2006.
20	Q6.2	Further to the response to the previous question, if there are expected to be material
21		differences in operating and maintenance costs among the four siting options, please
22		identify the costs.
23	A6.2	The Company does not expect any significant difference in operation and maintenance costs
24		among the substation siting options.

1Q6.3Further to the responses to the two previous questions, please provide a comparison of the2non-financial factors related to rebuilding the substation at each of the four siting options.

- 3 A6.3 The non financial factors related to rebuilding the substation at alternate sites were described in
- the response to Q2.3 and are directly related to available site size, operator safety, safe access to
 the site and transmission and distribution line access to the site.

FortisBC Naramata Substation Project

Commission Information Request No. 1 to FortisBC

Appendix 1



1

FortisBC Naramata Substation Project

1

Appendix 2





Joyce Martin Manager of Regulatory Affairs FortisBC Inc. 1290 Esplanade Box 130 Trail BC V1R 4L4 Ph: 250 368 0319 Fax: 1 866 605 9431 Joyce.Martin@fortisbc.com www.fortisbc.com

September 15, 2006

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 Information Request No. 1

On August 11, 2006, FortisBC Inc. ("FortisBC" or the "Company") provided a response to Commission Information Request No. 1. At the time of filing, certain engineering and cost detail was not available and is now provided in the attached document.

The Information Request concerned the feasibility of constructing the new Naramata substation at a number of potential sites, including a property on Arawana Road (the "Gibbard" site); a site owned by the provincial Ministry of Transportation ("MOT") immediately south of the Naramata Fire Hall (the "Fire Hall" site); and at the location of the present substation (the "Vukelich" site).

Based on the information contained in the attached responses, FortisBC considers that the previously unavailable Fire Hall site is a feasible location for the new substation, and that costs of constructing the substation at this site are likely to be close to the lower range of estimates for the Gibbard site. The Company is willing, subject to confirmation of the cost and timing of the property acquisition, permitting and approvals, and further stakeholder consultation, to construct the substation at that location. While these processes will commence soon, it is premature to assume a favourable outcome to them.

FortisBC expects to proceed in the following manner. If an offer to purchase is made by MoT that meets the project requirements, one or more public meetings will be held, with all residents of Naramata invited. Information will include the two potential sites and graphic renderings of the alternatives If the public feedback is generally supportive of the Fire Hall location, a zoning application will be made to the regional district to have the zoning changed from the current AG (agricultural) to industrial. If successful, FortisBC will change the location of the project to the Fire Hall site. If public feedback indicates strong opposition, and mitigation of the concerns does not seem possible or reasonable, FortisBC will then review each potential location and determine the most suitable course of action.

An update will be provided to the Commission upon completion of this process.

Yours truly,

Joyce Martin

Joyce Martin Manager of Regulatory Affairs

cc: Interested parties - Naramata Substation Project

- 1 In its letter dated August 11, 2006 responding to the Commission's Information Request No. 1,
- FortisBC stated that information relating to questions 1.1, 2.1, 4.3, 4.4, and 6.1 would be provided at
 a later date. The outstanding information is provided below.
- 4 1.0 FortisBC Report dated July 21, 2006, p.3

5 Q1.1 On page 3, the FortisBC Report states that the selected site is the most suitable in terms 6 of terrain access to other system facilities, permitted use, minimization of impact and 7 overall visibility. Please identify the other sites that FortisBC included in the 8 comparison and provide a copy of the schedule that FortisBC used to summarize the 9 comparison based on these factors, and other factors, including the cost of the 10 Naramata Substation Project.

11 12	A1.1	Aug 11 th Status:	FortisBC was investigating the potential for acquiring the "Fire Hall" site adjacent to Naramata Road as an alternate substation site.
13 14 15		Sept 15 th Update:	The site in question is slightly smaller in size than is preferable for both operations and access. However, as described in the update to response A2.1 below, it is feasible to construct a substation on the site
16			without compromising significant safety or operational requirements.
17			As of September 11, 2006, FortisBC has been made aware that the
18			Ministry of Transportation ("MoT") is now interested in disposing of
19			or leasing the Fire Hall site. There has been no formal commitment to
20 21			not been established. However, if the site is made available in a
22			reasonable period of time and at a reasonable cost, this will become
23			the preferred site.
24			Attempts are being made to meet with the appropriate MoT
25			representatives prior to September 30, 2006. The process and
26			particulars relating to the potential acquisition will be explored in
27			greater depth at that time, and an update will be supplied to the
28			Commission when suitable information is available.

1	2.0	FortisBC Report dated July 21, 2006, p.4			
2	Q2.1	Further to the statement on page 4 that the existing site cannot be expanded, and that			
3		the Fire Hall site appears to have limited space, please provide the dimensions and area			
4		of each of the existing substation site, the Fire Hall site and the proposed Gibbard site			
5	A2.1	Aug 11 th Status:	The adequacy of the Fire Hall site for constructing the necessary		
6			substation was unknown.		
7		Sept 15 th Update:	An engineering review of the site was undertaken to determine if the		
8			Fire Hall site was suitable. The review has revealed that the site is		
9			indeed acceptable for construction purposes. There are some issues		
10			that arise out of the use of this site, which include:		
11			• <u>Site access</u> . The substation would be located on a relatively		
12			triangular piece of property, bounded on two sides by MoT		
13			controlled roadways and on the third by a retaining wall. Access		
14			for vehicles will require traffic control attendants to enter and exit		
15			the site. Special site procedures will be required.		
16			• <u>A natural gas line</u> . It appears, subject to confirmation, that a		
17			natural gas line traverses the site. Arrangements would have to be		
18			made to relocate this line, at an expected cost of approximately		
19			\$25,000.		
20			• <u>The future upgrade of the retaining wall</u> . The substation would be		
21			secured with a retaining wall on the north side. This wall will		
22			require inspection and future maintenance. Those costs difficult to		
23			quantify at this time but are expected to be small.		

1	4.0	FortisBC Report dated July 21, 2006, p.4			
2	4.3	Please describe the construction that would be needed to connect the rebuilt substation			
3		on the existing site	to 45 Line and to the distribution feeder, and identify the cost of this		
4		work.			
5	A4.3	Aug 11 th Status:	The Commission had requested a configuration and cost associated		
6			with rebuilding the site at the existing location.		
7		Sept 15 th Update:	Upon further evaluation, the use of this site has been eliminated as a		
8			potential substation location, because:		
9			• The existing site is several feet higher than the road grade. A new		
10			station at that location would require a flat footprint for the		
11			substation as well as legal access for service vehicles and the		
12			mobile substation. The only practical way to achieve this is to		
13			excavate to road grade. Given the land contours, this requires a		
14			prepared site of approximately 80m x 80m, inclusive of access and		
15			the proper soil sloping.		
16			• To accommodate the necessary construction, the private home		
17			adjacent to this location would have to be demolished, the land		
18			area expropriated and the residents forcibly moved. FortisBC		
19			considers this to be unacceptable so long as there are other viable		
20			project options		
21			• A third 13 kV distribution circuit would have to be constructed in		
22			the future to serve the area load. Given that most of this load		
23			growth appears to be south of this location, it is expected that this		
24			circuit would be located either overhead, creating a second line on		
25			the other side of the road from the existing line, underground or on		
26			several private properties to a point where the supply is required.		
27			• The land adjacent to the existing site is within the ALR, and would		
28			require an application to the Agricultural Land Commission for a		

1 2 3 4			non-farm use permit. The alternate sites are either already approved (Gibbard) or excluded (Fire Hall), and this information would be considered by the ALC in the context of a new application
5 6			• Local opposition to the expansion of this site has already been voiced.
7	04.4	Further to the stat	ement that the Fire Hall site has limited space, please discuss the
8	Ľ	feasibility of rebui	lding the substation on this site (and possibly retaining the existing
9		substation site for	locating a mobile transformer), and identify the cost of construction
10		at this site.	
11 12	A4.4	Aug 11 th Status:	An engineering study was to be launched to determine the suitability of constructing a substation at the Fire Hall site.
13 14 15		Sept 15 th Update:	As stated in the updated response to A2.1, this site has been evaluated. The results indicate that the site is acceptable to construct a fully operational substation, complete with facilities to accommodate the
16 17			mobile substation. Retention of the existing site would not be required under this scenario.
18 19 20			The civil costs for constructing on this site are approximately \$75,000 higher than for the Gibbard site, whereas the transmission and distribution line costs would be at least \$150,000 lower, as the
21 22			transmission source of 45L is in immediate proximity, thereby eliminating the need for extension of any of these circuits.
23			As with the other sites that have been investigated and in some cases
24 25			of public concultation. At this point it is not clear whether this site
25 26			will be considered by the larger community as accentable. The site
27			will also require a zoning application to be submitted to the Regional
28			District of Okanagan Similkameen. The property is currently excluded
29			from the Agricultural Land Reserve.

1	Another significant feature of the Fire Hall site relates to its potential
2	availability. Initial discussions with the MoT indicated that the land
3	parcel would not be available for lease or sale, as the Ministry wished
4	to retain the property for possible future use. Subsequent discussions
5	with regional and provincial elected representatives have in turn lead
6	to an interest on the part of the MoT to dispose of the site. However,
7	there is no quantified information about the cost, confirmed intent to
8	sell or length of process to acquire the land. Acquisition therefore
9	remains a risk until these details can be confirmed. FortisBC expects
10	to initiate formal talks with the MoT in the next few weeks, at which
11	time an update will be provided to the Commission.

1 **6.0** FortisBC Report dated July 21, 2006, pp 8, 11

Q6.1 The Naramata Substation Project as approved by Order No. G-52-05 has an estimated 2 capital cost of \$3.25 million, which FortisBC proposes to reduce by \$200,000 to \$3.05 3 million by using a smaller 6/8/10 MVA transformer. Please provide updated cost 4 estimate for the substation rebuild project at each of the Gibbard site, the Fire Hall site, 5 the existing substation site and the existing substation site with the acquisition of 6 additional land adjacent to the site. Please break-out the cost for each option as 7 8 between the substation costs and the cost of connecting the rebuilt substation to 45 Line and to the distribution feeders. 9 a a th o

10	A6.1	Aug 11 th Status:	The Commission has requested an update on the project costs for each
11			of the potential substation locations – Gibbard, the Fire Hall and the
12			existing substation location.

Sept 15th Update:For the reasons offered in the update to response A4.3, the existing
substation site has been discounted as a feasible location.

15The comparative project costs for both the Gibbard and Fire Hall sites16are shown in the following table:

Item(s)	Gibbard Site	Fire Hall Site	Description	
	(\$0	00s)		
Property	407	Unknown	Land price based on appraisal	
Substation Design and Construction	3,130	3,300	Fire Hall site would likely require more visual screening	
Line Design and Construction	250 - 880	80 - 100		
Investigative Engineering (for alternate sites)	330	460	Consultants' design for three station sites and assocated line work	
Other costs	140	140	Planning, project management, public consultation	
Investigation, zoning & permitting	275	275	Consultants, survey, option costs, geotech assessments, etc.	
Total	4,532 - 5,162	4,255 - 4,275 (plus cost of property)		

Each site cost includes investigative costs incurred to date. These

costs include land agent investigations, option costs, geotechnical

assessments, survey, engineering for alternate sites, public

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consultations and approval processes.

1	The cost for line construction is considerably higher, and is estimated
2	within a wider range, for the Gibbard site proposal than for the Fire
3	Hall site because of the distance from the existing transmission line.
4	In total, although the cost of acquiring the Fire Hall site is not yet
5	known, the estimated project cost is expected to be at the lower end of
6	the estimated range for the Gibbard site. If the property acquisition,
7	re-zoning and permitting, and public consultation processes produce
8	favourable results, FortisBC will select the Fire Hall site for
9	construction of the new substation.
10	



Joyce Martin Manager of Regulatory Affairs Regulatory Affairs Department FortisBC Inc. 1290 Esplanade Box 130

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October 26, 2006

Mr. R.J. Pellatt Commission Secretary BC Utilities Commission Sixth Floor, 900 Howe Street, Box 250 Vancouver, BC V6Z 2N3

Dear Mr. Pellatt:

Re: Naramata Substation Project

FortisBC is providing the BC Utilities Commission ("Commission") this update in regard to the Naramata Substation Project. The Company has been actively reviewing the prospect of constructing the Naramata substation on a tract of land immediately south of the Naramata Fire Hall. To date, the engineering review indicates that the substation can be constructed at that location without compromising safety, functionality, or future expansion potential. While there have been no formal commitments, the Ministry of Transportation has indicated that it is willing to dispose of the land and has initiated its external referral process.

As stated in previous correspondence, a rezoning application had been submitted to the Regional District of Okanagan-Similkameen for the Arawana Road site previously acquired for the substation. The Regional District's Naramata Advisory Planning Committee ("APC") assessed 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.

A public information session is scheduled for November 1, 2006 to communicate the current project status and to solicit general public feedback. The information session will take place from 7:00 to 9:00 p.m. at the Naramata Center, Columbia Hall at 455 Ellis Street, in Naramata, BC. Notice of the information session will be circulated in the Naramata area between October 21 and November 1.

FortisBC expects that within 14 days of this meeting, it will have adequate information, taking into account stakeholder feedback, to determine which of the two substation locations is most suitable. At that time, this preference will be communicated to both the Commission and the Regional District. If the Fire Hall site is found to be most suitable, FortisBC will then proceed with site acquisition and other permitting requirements, including rezoning.

If the Ministry of Transportation will not sell the Fire Hall site at a reasonable price or rezoning does not occur FortisBC will continue with the project on the Arawana Road site. In any event, FortisBC will continue to update the Commission on its progress.

Should you require further information regarding this project, please contact the undersigned directly.

Sincerely,

Joyce Martin

Joyce Martin Manager of Regulatory Affairs

cc: Interested Parties



Joyce Martin Manager of Regulatory Affairs FortisBC Inc. Regulatory Affairs Department 1290 Esplanade Box 130 Trail BC V1R 4L4 Ph: 250 368 0319 regulatory@fortisbc.com www.fortisbc.com

November 16, 2006

<u>Via Email</u> Original via mail

Mr. R. J. Pellatt Commission Secretary BC Utilities Commission Sixth Floor, 900 Howe Street, Box 250 Vancouver, BC V6Z 2N3

Dear Mr. Pellatt:

Re: Naramata Substation Project

FortisBC Inc. ("FortisBC" or the "Company") provides this update in regard to the Naramata Substation Project. FortisBC held a public information session in Naramata on November 1, 2006 to review the two potential substation sites in Naramata, namely the "Fire Hall" and "Arawana Road" locations, and their relative community impacts. The information session was very well attended by approximately 200 residents, and an extended discussion took place. Attendees were encouraged to complete an exit questionnaire to ensure their views could be articulated and recorded, and a total of 100 attendees responded.

As stated in FortisBC's correspondence dated October 26, 2006, the Company had expected to be in a position to make a final decision on the project location within two weeks of the public meeting. As of this time, the Company has yet to receive several items of information related to the potential use of the Fire Hall site. Specifically, information on:

- a) **Potential for visual screening**: Given the very limited space available at the Fire Hall site, it is possible that there is inadequate space to visually screen the substation. Aesthetic impact was the primary concern expressed at the recent public information session which may have a dramatic effect on FortisBC's decision. Visual screening must be approved by the Ministry of Transportation ("MOT").
- **b) Traffic safety impacts:** The site is at the junction of Lower Debeck and Naramata Roads and there is a need to ensure that visibility is maintained for traffic looking left while turning onto Naramata Road. MOT is reviewing the substation plans with respect to this issue.
- c) Impact on the nearby Telus communications system: This potential issue was identified during the MoT review of FortisBC's request to purchase the property. It is possible that Telus may have to increase grounding on their copper wire system that is adjacent to the Fire Hall site. The Company has requested a scope statement and cost estimate from Telus.
- d) Impacts to the fire department communications systems and operations. The Fire Chief of the Naramata Volunteer Fire Department has expressed concerns about the impact of the substation on its communications systems, which are required for local use as well as fulfilling the department mandate as an emergency center. FortisBC is seeking a third party opinion regarding the potential of the substation to interfere with the Fire Department's communications if located in such close proximity to the Fire Hall.
- e) The timeline for the Province to dispose of the site. The MoT has indicated that a proposal to sell the land could be issued to its Kamloops office within one month. However, it is not clear how long it would take the Province to take the necessary steps to sell the land. Land costs are also not known at this time. FortisBC has requested a meeting with MOT and hopes to receive the necessary information within a short time.

FortisBC has been active in its efforts to acquire the information necessary to reach a decision on the most appropriate site for the substation. FortisBC regrets the need to delay its decision, however the process is dependent on a number of external sources, as is evident from the comments above. Once the Company is able to consider all inputs, including those received at the November 1, 2006 public information session, FortisBC will make its decision regarding the site for the new substation and will then notify the Commission.

Sincerely,

Joyce Martin

Joyce Martin Manager of Regulatory Affairs

cc: Interested Parties



Joyce Martin Manager, Regulatory Affairs FortisBC Inc. Regulatory Affairs Department 1290 Esplanade Box 130 Trail BC V1R 4L4 Ph: 250 368 0319 Fax: 1 866 605 9431 Joyce.Martin@fortisbc.com www.fortisbc.com

February 14, 2007

Mr. R.J. Pellatt Commission Secretary BC Utilities Commission Sixth Floor, 900 Howe Street, Box 250 Vancouver, BC V6Z 2N3

Dear Mr. Pellatt:

Re: Naramata Substation Project

FortisBC Inc. ("FortisBC" or the "Company") provides this update in regard to the Naramata Substation Project (the "Project"). As noted in its report of November 16, 2006, the Company had been awaiting input from various third parties in order to complete its evaluation of the "Fire Hall" site at Naramata Road and Debeck Road in comparison to the "Arawana Road" site. FortisBC has confirmed that all of the technical issues related to constructing the substation at the Fire Hall site can be addressed by modifying the site layout, and is assessing the cost impacts of the modifications.

Also under consideration is the ability and related cost to provide an acceptable form of visual screening at the Fire Hall site. The aesthetic impact of the Project was the primary concern expressed at FortisBC's public information session for this Project. As required under FortisBC's Tariff, only the costs of facilities necessary to provide service (in the case of substation fencing, chain link fencing is standard) are paid by the Company. The Company notes that there is insufficient space to provide vegetation screening for the Fire Hall site. A solid screening wall in place of the chain link fence is possible; however these additional costs should be borne by the customer(s) receiving the benefit of the upgrade.

If the cost of construction at the two sites is determined to be comparable, FortisBC will request input from the Regional District of Okanagan Similkameen as to the location and screening options for the substation. If the Fire Hall site is the Company's preferred site, an application to acquire the property will be submitted to the provincial government. The purchase price and amount of time to complete the acquisition process are not known and may also impact the site decision. If the acquisition process delays completion of the

Appendix G substation beyond the autumn of 2007, there is risk of being unable to meet the coming winter peak requirements, and mitigation measures may be required.

FortisBC will provide additional updates as information becomes available.

Sincerely, Joyce Martin

Joyce Martin Manager, Regulatory Affairs

cc: Interested Parties

FORTISBC

Joyce Martin Manager, Regulatory Affairs FortisBC Inc. Regulatory Affairs Department 1290 Esplanade Box 130 Trail BC V1R 4L4 Ph: 250 368 0319 Fax: 1 866 605 9431 regulatory@fortisbc.com www.fortisbc.com

March 15, 2007

<u>Via Email</u>

Original via mail

Mr. R.J. Pellatt Commission Secretary BC Utilities Commission Sixth Floor, 900 Howe Street, Box 250 Vancouver, BC V6Z 2N3

Dear Mr. Pellatt:

Re: Naramata Substation Project

FortisBC Inc. ("FortisBC" or the "Company") hereby advises the British Columbia Utilities Commission ("BCUC" or "Commission") that it has completed its review of the two sites being considered for its new substation in Naramata. The sites are the Company-owned property on Arawana Road and the Fire Hall site at Naramata Road and Debeck Road.

The Company intends to construct and operate the substation at the Arawana Road location. This decision is based on a number of factors including cost, operations and safety, aesthetics and flexibility for future growth. These factors are discussed below.

Cost

In its letter dated February 14, 2007 to the Commission, FortisBC confirmed that it is technically feasible to construct a substation at the Fire Hall site, and stated that the costs of the required modifications were under review to determine whether the construction costs at the two sites are comparable.

The Company's review indicates that the costs are not comparable. The modifications at the Fire Hall would increase costs by approximately \$700,000 - \$1,100,000 (dependent on the resale land value of the Arawana Road property) compared to the Arawana site. The factors affecting construction costs at the two sites are identified below:

Fire Hall Site

a) The available footprint for the substation is much smaller than the Arawana Road site, resulting in higher costs for:

- re-engineering to design non-standard layout;
- site preparation, due to limited work space, additional trucking and storage costs due to lack of room to store earth spoil, mitigation of traffic impacts during construction; and
- equipment grounding in limited space, including the requirement for a geotechnical study.
- b) There is a possible requirement to pave the substation site to mitigate grounding issues.
- c) The natural gas main located in the center of site will have to be relocated.
- d) The contour of the property combined with limited area will require the construction of retaining walls on the Fire Hall and Debeck Road sides and distribution egress through the retaining wall and natural grade.

Arawana Road Site

- a) The greater distance from the existing 63 kV 45 Line will require:
 - approximately 550 meters of new 63 kV transmission line with distribution underbuild and an increase in circuit capacity of existing distribution line along Arawana Road; and
 - the acquisition of transmission line right of way and anchor and aerial easements for the distribution line.
- b) There is a requirement to have an existing residential water line relocated away from the substation site.

Cost estimates for constructing a new substation at the two sites are summarized below.

	Arawana Road	Fire Hall	Difference	Comments
	Roau	(\$000s)		
Costs Incurred to Date	2,100	2,100	-	Includes purchase of transformer and Arawana Road site
Costs Going Forward				
Substation	3,000	4,200	1,200	Does not include transformer cost
Transmission Line	250	50	(200)	Assumes direct route for transmission line to 45 Line
Distribution Line	100	50	(50)	Rebuild existing along Arawana Road
Land for Substation	*	400	400	
Land for Transmission Line	300	-	(300)	
AFUDC	339	367	28	
Forecast Total	6,089	** 7,167	1,078	

Table 1Cost Comparison, Fire Hall and Arawana Road Sites

* included in Costs Incurred to Date

** Fire Hall total costs may be credited by the sale of the Arawana Road property

Operations and Safety

The restricted size of the Fire Hall site gives rise to a number of operational and safety issues during substation maintenance or emergency response when 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;
- the maintenance trailer may fit on site, however other Company vehicles will have to be parked roadside.
- restricted operation of manlifts and hiabs (truck mounted crane);
- transformer replacement will require road closures to position cranes; and
- one entrance to site restricts general operations such as snow clearing.

Aesthetics

FortisBC recognizes that a facility such as the proposed substation is not a preferred land use, and that a number of Naramata residents, particularly those in the Arawana Road vicinity, do not favour the selected site. Feedback from FortisBC's public meeting in November 2006 revealed that although a majority of attendees disagreed that Arawana Road is the most appropriate site for the substation, a similar majority consider that neither site is appropriate, and a number of respondents stated that they would not support the Fire Hall site if it could not be screened effectively.

The potential for screening the substation from public view is much reduced at the Fire Hall site compared to the Arawana Road site. The Fire Hall site is prominently located along the major thoroughfare to this community, and the most effective means of minimizing the substation's visual impact would be to construct a ten-foot high solid wall that would screen most of the substation equipment, but which in itself would create an aesthetic concern. Situated on Arawana Road, the substation will be shielded by the property's natural grade and contained within a tree buffer that is consistent with the natural appearance of the area to minimize the aesthetic concerns of the limited number of landowners directly affected by this location.

Flexibility for Future Growth

In its 2006 System Development Plan ("SDP") Update, the Company forecast growth for Naramata at 3.3% annually over the distribution planning horizon (5 years) and 1.5% annually over the transmission planning horizon (20 years), and had recommended a standard 20 MVA station with mobile backup to accommodate unforeseen load increases.

A 10 MVA transformer was purchased for the new substation. With Okanagan development showing continued strong growth (an example is the recent upgrade of the Naramata water supply system which added an additional 800 kW in area demand), the load forecast for Naramata in the next SDP Update will extend the distribution growth for a further five years at rates somewhere between 3.0 - 5.0% for residential and commercial development before declining again to a more moderate longer term growth rate.

Although the capacity of the proposed 10 MVA transformer is expected to meet demand for the next 15 years under the revised forecast, FortisBC considers it prudent to ensure that the

substation site is of sufficient size to allow for future growth. The Arawana Road site is large enough to accommodate, if necessary, a second transformer in future, allowing full operational access to equipment and additional feeders without expanding the footprint of the substation.

It is the Company's opinion that either the advancement of load growth, or a shift in the location of growth, may result in a future need to relocate or even add a second substation to meet Naramata's requirements. This concern, in addition to the cost, operations and safety and aesthetic issues will be better addressed by locating the new substation at the Arawana Road site.

Project Schedule

Project milestones are the following:

Begin major component procurement and		
ROW acquisition		
Rezoning approval (following adoption of new Official		
Community Plan by Regional District Okanagan		
Similkameen)		
Begin detailed design and engineering		
Construction tender awarded		
Construction starts		
Project energized		

Risk Mitigation

The age and capacity limitations of the existing Naramata substation are of concern to FortisBC for the summer and winter peaks beginning in 2007. The condition of the existing transformer is being monitored on a regular basis. The historical winter load served by this transformer is approximately twice that of the summer load, creating an increased risk during the winter. Due to the length of the site selection process, the project will not be complete before winter 2008. If the existing transformer is unable to adequately serve load during this timeframe, FortisBC intends to use a mobile substation to maintain or restore service to the Naramata area.

In summary, the Company has acted diligently in its site review and planning process. Approximately 20 potential sites were reviewed and the Arawana Road site has been recommended after due consideration to size, terrain, visual impact, reliability, safety and cost.

The Company will work with its customers in the Naramata area to mitigate concerns they may have regarding the site selection, where prudent to do so.

Yours truly,

(original signed by L. Humphrey for)

Joyce Martin Manager, Regulatory Affairs