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November 6, 2015

Via Email
Original via Mail

Commercial Energy Consumers Association of British Columbia c/o Owen Bird Law Corporation P.O. Box 49130
Three Bentall Centre 2900 – 595 Burrard Street Vancouver, BC V7X 1J5

Attention: Mr. Christopher P. Weafer

Dear Mr. Weafer:

Re: FortisBC Inc. (FBC)

Application for a Certificate of Public Convenience and Necessity (CPCN) for the Kootenay Operations Centre (the Application)

Response to the Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2

On July 9, 2015, FBC filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-124-15 setting out the Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to CEC IR No. 2.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed by: Ilva Bevacqua

For: Diane Roy

Attachments

cc: Commission Secretary

Registered Parties (e-mail only)



Application for a Certificate of Public Convenience and Necessity (CPCN) for the Kootenay Operations Centre (the Application)

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1 1. Reference: Exhibit B-6, CEC 1.1.1 and Exhibit B-4, BCUC 1.8.1 and BCUC 1.8.7

1.1 What are the age and condition issues that affect the Castlegar District Office?

Response:

The Castlegar District Office was originally constructed in 1962 and is 53 years old. The building systems are nearing end of life, as identified in the report from Iredale Group Architecture included as Appendix C to the Application. As demonstrated in the graph below, the majority of building systems such as structural system and concrete, exterior building envelope systems, roof system, air distribution, ventilation, plumbing, electrical and finishes are nearing end-of-life. A plan for the replacement of this site is required beyond 2020.

Response:

FBC has delayed the replacement of the Castlegar District Office to limit the incremental cost of service associated with the Project and to allow time to evaluate the opportunities for consolidating Network Services with the staff at the Castlegar District Office, while continuing to provide safe and reliable service by addressing the more immediate requirements of the region through the KOC Project. FBC, in consultation with Iredale Group Architecture, believes it can extend the life of the Castlegar District Office up to an additional five years to beyond 2020.

The Castlegar District Office is not included as part of the Application and FBC will assess alternatives to accommodate the functions and staff from the Castlegar District Office at a later date. However, based on asset life extension of the Castlegar District Office to beyond 2020, the KOC could provide a viable alternative for future Castlegar District Office requirements. A future addition to the south west corner of the proposed KOC building for office space and truck bays would accommodate the functions and staff of the Castlegar District Office. Interior material storage would be assumed within the proposed KOC material storage. Additional exterior foundation and racking would be added to support the additional yard material such as transformers and wire required for the Network Services Group.

Response:

The following tables represent Tables 5-1, 5-5 and 5-6 of the Application updated to show a comparison between the operating costs, capital costs and financial analysis for constructing the KOC Project inclusive of the Castlegar District Office (CDO) requirements and the CDO requirements addressed in 2020 (2021 Rate Base) over an analysis period of 50 years.

As shown in Table 5-6 below, the forecast percent impact to customers is the same in all cases at 0.7% and the present value of the incremental revenue requirement of delaying CDO relocation to the KOC beyond 2020 is slightly higher than incorporating the scope into the KOC Project now. However, a delay in the CDO relocation allows time to evaluate opportunities for consolidating the Network Services group while addressing the immediate requirements of the region through the KOC Project. Furthermore, the addition of the CDO into the KOC scope would increase the risk of delay to the proposed schedule in-service date from 2017 to 2018.

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Assumptions for this analysis are as follows:

- Capital Cost Additions for including CDO:
 - The capital cost of adding the CDO in 2015\$ is \$2.0 million (cost estimate does not meet AACE Class 3 definition);
 - If the CDO is included with the timing of the KOC in-service date of November, 2017 the As-spent capital cost would be \$2.1 million; and
 - If the CDO is delayed to December, 2020 the As-spent capital cost would be \$2.3 million.
- Operating Cost Impacts for including CDO in KOC:
 - The change in property taxes in 2015\$ from Alternative 5 would be an increase of \$24 thousand; and
 - The change in the O&M expense in 2015\$ from Alternative 5 would be a reduction of \$54 thousand.

Table 5-1: KOC Operating Costs plus Changes for CDO

Item Description	2015 Estimated Annual O&M Cost and Savings \$(000's)
KOC Operating Costs	\$295
Net Generation Recoveries	(150)

Inreased Generation Travel	30
Total	175
Additional KOC Operating Costs from CDO	14
Avoided CDO Costs	(68)
Total with Castlegar District Office Impact	\$121

Table 5-5: Summary of Capital Costs of Alternative 5 + Change for CDO (\$ millions)

	Alternative 5	Alternative 5 + CDO in 2017	Alternative 5 + CDO in 2021
2015\$	\$18.896	\$20.888	\$20.888
As-Spent	\$19.077	\$21.143	\$21.369
AFUDC	1.128	1.242	1.186
Demolition / Removal	0.446	0.446	0.446
Total	\$20.651	\$22.831	\$23.001



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Table 5-6: Summary of Financial Analysis of Alternative 5 + Change for CDO (\$ millions unless otherwise stated)

	Alternative 5	Alternative 5 + CDO in 2017	Alternative 5 + CDO in 2021
As-Spent Capital Costs	\$20.651	\$22.831	\$23.001
		2018: \$22.291	2018: \$20.461
2018 / 2021 Rate Base	2018: \$20.459	2019: \$20.808	2021: \$21.337
Incremental Property Taxes – 2015\$	\$0.419	\$0.443	\$0.443
Gross Incremental O&M Expense - 2015\$	\$(0.025)	\$(0.080)	\$(0.080)
PV of Incremental Revenue Requirement	\$33.912	\$34.987	\$35.121
DCF - NPV	\$(0.060)	\$(0.074)	\$(0.020)
		2018: 0.7%	2018: 0.7%
2018 / 2021 Rate Increase	2018: 0.7%	2021: 0.7%	2021: 0.7%

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1.1 Does the approval of Alternative 5 at the present effectively include the presumption that the CDO will be incorporated in some manner in 2021 as shown in Alternative 5+ CDO in 2021? Please explain why or why not.

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Response:

The approval of Alternative 5 as filed in the KOC CPCN Application does not presume the CDO would be incorporated in some manner in 2021. As described in the response to BCUC IR 1.8.1, FBC had planned to assess alternatives to accommodate the functions and staff from the CDO at a later date.

However, as described in the responses to BCUC IRs 2.5.3 and 2.5.4, FBC has now undertaken an evaluation of the operational requirements of the Network Services group in the Kootenay region. Please refer to those responses for details.

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18 19 1.2 If yes, does FBC estimate that the delay in the replacement of the Castlegar District Office will 'limit the incremental cost of service associated with the Project' by approximately \$0.054 million on a discounted cash flow NPV basis (\$0.074 million - \$0.020 million)?

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Response:

- 23 Please refer to the response to CEC IR 2.1.1.
- The appropriate measure of the discounted cost of service is not the DCF NPV results, but rather the PV of Incremental Revenue Requirement. The incremental PV of the Revenue



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- 1 Requirement from including the Castlegar District Office for relocation to and consolidation into
- 2 the KOC in 2020 (2021 Revenue Requirement) versus relocation to and consolidation into the
- 3 KOC in 2017 (2018 Revenue Requirement) is \$134 thousand (\$35.121 million less \$34.987
- 4 million). This equates to an annual incremental cost of approximately \$2.7 thousand (\$134
- 5 thousand / 50 years). The incremental impact to a residential customer or commercial customer
- 6 would be negligible. Please also refer to the response to BCUC IR 2.5.3.

Financial Impact of 2017 vs. 2020 Relocation and Consolidation of Castlegar District Office

	Mi	llions \$	
PV of Incremental Revenue Requirement (2021) PV of Incremental Revenue Requirement (2018) Change for CDO in-service 2020 vs 2017	\$ - \$	35.121 34.987 0.134	
Financial Analysis Period		50	Years
Annual Impact of Delay	\$	0.003	
2015 Forecast Revenue Residential Commercial	\$ \$	170.546 77.917	
Total Revenue Forecast	\$	321.134	
Annual Impact Allocation Residential Commercial	\$ \$	0.001 0.001	
Forecast Year End # of Customers (2015) Residential Commercial		114,855 14,531	
Average Incremental Cost per Customer per Year Residential Commercial	-	Iominal Dollars 0.01 0.04	

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1 1.2.1 If no, please provide quantification of the estimated limit to the 2 incremental cost of service that is afforded by the delay. 3 4 **Response:** 5 Please refer to the response to CEC IR 2.1.2. 6 7 8 9 1.3 Please provide the estimated dollar value of the rate increase based on the 10 average residential customer bill. 11 12 Response: 13 Please refer to the response to CEC IR 2.1.2. 14 15 16 17 1.4 Please provide the estimated dollar value of the rate increase based on the 18 average commercial customer bill. 19 20 Response: 21 Please refer to the response to CEC IR 2.1.2. 22 23 24 25 1.5 What, if any, benefits might also be afforded by incorporating the DCO into the 26 project at this time. Please discuss and provide quantification of any financial 27 benefits that could accrue that have not been incorporated above. 28 29 Response:

FBC believes the consolidation of the CDO Network Services group and 6 Warfield Complex Capital Construction PLTs at the KOC location will provide immediate customer and operational benefits as described in the response to BCUC IR 2.5.4. Please also refer to the response to BCUC IR 2.5.3 and 2.5.10.



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1 The response to BCUC IR 2.5.12.1 provides the AACE Class 3 cost estimates for this 2 alternative.

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1.6 If the functions and staff from the Castlegar District Office were moved elsewhere, could the land and/or buildings be sold, leased or otherwise utilized productively? Please explain and provide quantification of any revenue that could be earned from this site.

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Response:

Assuming the Castlegar District Office and material and fleet were relocated elsewhere, the land and/or building could be leased or sold. Because the building is nearing end of life and FBC would not otherwise be able to utilize the space productively, FBC would expect to dispose of the property after relocation. Please refer to the response to BCUC IR 2.9.1 and 2.9.2 for information on the value of the property.



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1 2. Reference: Exhibit B-6, CEC 1.4.2

4.2 Are new facilities necessary only for higher level emergencies? Please explain.

Response:

No. FBC's response to lower level emergencies typically results in the activation of an Area Command Centre (ACC), which is necessary to coordinate the response between multiple field operations crews and Corporate Communications. The facility described in this Application would provide a dedicated meeting room that would be used for both activation of an EOC or an ACC in response to any lower level or higher level emergency in the Kootenay region.

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2.1 What level of emergency is the proposed EOC designed to handle? Please provide a brief explanation as to whether this may be considered a lower level or higher level emergency.

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Response:

- The EOC facility is designed to handle all levels of emergencies including the higher level emergencies such as Level 2 (Serious) and Level 3 (Critical) emergencies. FBC defines Level 2 and 3 emergencies as follows:
- 11 Level 2:
 - affected load will not be restored in 24 hours;
- crews may be required from other areas;
- multiple generation, transmission, or distribution facilities are impacted and prioritization
 of restoration is required;
 - interruption to communications infrastructure (data and/or voice) which affects System Control Centre or field operations, where resolution will not be restored in 24 hours; and
 - use of primary control centre is unavailable for a significant amount of time.

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- 20 Level 3:
 - restoration of service to loads may take as long as 2 weeks;
- coordinated communications with multiple departments and/or external stakeholders required for crisis/consequence/reputation management;
- all qualified FBC staff electrical workers are utilized for damage assessment and triage;
- qualified electrical workers may be required to supervise external resources;
- communications for system operations (data and/or voice) unavailable for a significant amount of time; and



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• all available resources are mobilized and a request for mutual assistance may be considered.



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1 3. Reference: Exhibit B-6, CEC 1.5.2

5.2 Does FBC require the same amount of space and resources as that required by FEI, or does the resource requirement vary with the size of the utility? Please explain.

Response:

The size of the utility does not impact the resource requirements for an EOC. The amount of space and resources required for an EOC or ACC activation is determined by the nature and scope of the emergency. The physical size of the EOC in this proposal was determined by an assessment of the space required during historical emergency events. In the event of a very large emergency requiring more space, other space in the same facility would be allocated or other functions such as engineering or mapping would be carried out remotely.

Please also refer to the response to CEC IR 1.4.1.

3.1 Did FBC have sufficient space to effectively handle its historical emergencies?

Response:

This response is being filed confidentially under separate cover, as it contains information related to the location of the Company's assets, including Critical Assets. FBC believes that there is reasonable expectation that the release of such information could potentially jeopardize the safety and security of the Company's system.

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Response:

3.1.1

Please refer to the Confidential response to CEC IR 2.3.1 for information related to the EOC space limitations in the Kootenay region. FBC has designed the KOC to include adequate and increased space for the EOC functions. Please also refer to the response to CEC IR 2.3.2.

If yes, please discuss whether or not FBC has kept the same available

space, or whether it has increased the space available in this project.

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23 3.1.2 If not, what issues occurred as a result of having insufficient space and how will the new space resolve these issues?



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1 Response:

2 Please refer to the Confidential response to CEC IR 2.3.1.

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3.2 Please provide further details as to the determination of the space required based on historical emergency events, and provide the levels of the historical emergency events that were considered in the assessment.

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Response:

- 11 Further to the Confidential response to CEC IR 2.3.1,,the historical events noted in the response
- to CEC IR 1.5.2 were Generation and Transmission and Distribution (T&D) Level 2 and Level 3
- 13 emergencies. Definitions of Level 2 and 3 emergencies are provided in the response to CEC IR
- 14 2.2.1.
- 15 The most typical emergencies experienced at FBC are Level 2 T&D events, due to windstorms
- and snowstorms which result in significant damage to overhead transmission and distribution
- 17 line infrastructure. During these emergencies, the damage is usually widespread throughout the
- service area and requires additional PLT resources to be brought in to assist with the restoration
- 19 efforts.
- 20 Managing of the resources and the coordination, prioritization and logistics are vital to public
- 21 safety and restoration efforts in Level 2 and 3 emergencies. To achieve these goals, the
- 22 sections within the EOC (Operations, Planning, Logistics, Risk Management/Finance, and
- 23 Corporate Communications) each require two to three staff, as well as the EOC lead and a
- 24 scribe. Thus, the EOC must support the space requirements for up to approximately 10
- 25 persons in the case of Level 2 emergencies and up to approximately 15 persons in the case of
- 26 Level 3 emergencies, as well as space for associated computers, communication equipment,
- information displays, and maps.

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31 3.3 Please confirm that many functions of the EOC can be carried out remotely as long as there are adequate communications facilities.

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Response:

This response also addresses CEC IR 2.3.4.



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- 1 Emergency Management BC is the Province's coordinating agency for all emergency activities.
- 2 The British Columbia Emergency Response Management System (BCERMS), with which FBC's
- 3 Emergency Program is compliant, is recognized as a standard system for emergency response
- 4 and is currently mandated for use within the Government of B.C. and recommended to local
- 5 authorities. The Emergency Management BC "Emergency Operation Centre Operational
- 6 Guidelines 2nd Edition" describes the structure and function of an EOC in detail and highlights
- 7 the principal functions and roles that should exist in an EOC location. Having certain functions
- 8 operate remotely is not a recommendation within these guidelines.
- 9 The availability of adequate communication during an emergency is not guaranteed. As noted
- in the response to CEC IR 2.3.2, an event resulting in an EOC activation is often caused either
- 11 from a major storm or fire damaging power line facilities including the poles and wires.
- 12 Communications providers' lines are often attached to FBC's poles or on separate, lighter duty
- 13 poles and therefore have a similar or an increased chance of failure as that of FBC power line
- 14 facilities. It is not reasonable to assume that all expected communications facilities will be
- 15 available during a T&D event EOC activation.
- 16 Having all the components of an EOC (Operations, Planning, Logistics, Risk
- 17 Management/Finance, Corporate Communications, Command, etc.) in the same physical
- location enables real-time management of the response whereas the separation of the functions
- 19 and roles would limit the response, regardless of the communications tools used. It is
- 20 particularly important for groups like the SCC, Operations (T&D and Generation), Dispatch,
- 21 Materials Management and Engineering who are directly involved with carrying out and
- supporting the real-time decisions and priorities of the EOC, to have representatives present in
- 23 the EOC.

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3.4 What, if any, functions cannot be carried out remotely if there are adequate communications facilities available? Please provide a list with an explanation for each function as to why it cannot be carried out remotely.

31 **Response:**

32 Please refer to the response to CEC IR 2.3.3.

Online: online: online: online: online: online: online: http://www.bc.gov.bc.ca/assets/gov/public-safety-and-emergency-services/emergency-preparedness-recovery/local-government/eoc_operational_guidelines.pdf



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1 4. Reference: Exhibit B-6, CEC 1.5.3 and 1.6.1

5.3 Could FBC share the FEI space and resources? Please explain why or why not.

Response:

No. The Lower Mainland location of the existing FEI (Gas) EOC is too distant from the FBC (Electric) service territory to activate quickly with the appropriate resourcing and to serve as a permanent EOC.

6.1 Does FBC have contingency plans as to the alternate sites that could be utilized?

Response:

FBC currently has two designated EOC locations (one in Kelowna and one in South Slocan in the Generation Administration Office), and the closest available EOC location that is unaffected by the emergency event would be selected. If necessary, depending on the extent and duration of the emergency event, a temporary EOC could be set up in an FBC office facility in Castlegar or Trail, in the FEI Surrey Operations EOC, or a third-party facility if no other suitable facility is available.

4.1 Please provide further details as to why a lower mainland location could not be activated quickly with appropriate resourcing.

Response:

The Lower Mainland EOC is typically staffed by specialized FEI employees who have specific expertise and knowledge of the natural gas system and gas infrastructure in the Lower Mainland and Squamish-Whistler corridor and who manage emergencies and are located in those areas. Likewise, events within the FBC service territory will typically require management by specialized FBC employees who are located in and manage emergencies within the electric service territory. Only these FBC employees have the knowledge and specific experience with the FBC electric system, its equipment and infrastructure, and the relevant mapping tools and other software systems necessary to appropriately support an emergency response.

4.2 Could the existing FEI EOC be utilized in large scale emergencies for remote engineering and mapping? Please explain why or why not.



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- 2 No, FBC employees who have the knowledge and specific experience with the FBC electric
- 3 system, its equipment and infrastructure, and the relevant mapping tools and other software
- 4 systems necessary to appropriately support an emergency response are not located in the
- 5 Surrey Operations building, nor are the required applications available.

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4.3 What area does the Lower Mainland FEI Gas EOC service for FEI?

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Response:

- 12 The Lower Mainland FEI EOC typically covers the Lower Mainland and Squamish-Whistler
- 13 corridor. Gas emergencies that occur in the Interior or on Vancouver Island are typically
- 14 managed out of the regional offices. For a larger scale gas-related emergency, the Lower

If the Lower Mainland Gas EOC services the entire FEI service territory, please

15 Mainland FEI EOC could cover an event which spans a broader territory.

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explain why it is acceptable for FEI to have remote EOC service, and not for FEI.

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Response:

4.4

23 Please refer to the response to CEC IR 2.4.3.



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5. Reference: Exhibit B-6, CEC 1.11.1

Response:

A centralized EOC enables rapid collaboration and coordination of planning, and simplified decision making. An EOC that is located centrally in the service area can be staffed most quickly by employees with the specific skill sets required in that area to respond to the emergency. It also could enable more timely access to potential emergency locations in the event of a complete loss of communications, in which case communication would be facilitated by road or air transportation travel. Please also refer to the response to ICG IR 1.1.1.

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5.1 Please give examples of the types of specific skill sets that would be required to be local, rather than remotely provided.

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Response:

Please refer to the response to CEC IR 2.4.1. All functions of the EOC (Operations, Planning, Logistics, Risk Management/Finance, Corporate Communications, Command, etc.) are more effectively performed by specialized FBC employees who are located in the area and who have knowledge of and specific experience with the FBC electric system, equipment and infrastructure, and the access to relevant mapping tools and other software systems.