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May 13, 2021

B.C. Sustainable Energy Association
c/o William J. Andrews, Barrister & Solicitor
1958 Parkside Lane
North Vancouver, B.C.
V7G 1X5

Attention: Mr. William J. Andrews

Dear Mr. Andrews:

Re: FortisBC Energy Inc. (FEI)

Project No. 1599152

Application for a Certificate of Public Convenience and Necessity for the Okanagan Capacity Upgrade Project (Application)

Response to the B.C. Sustainable Energy Association (BCSEA) Information Request (IR) No. 2

On November 16, 2020, FEI filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-97-21 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to BCSEA IR No. 2.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

FortisBC Energy Inc. (FEI or the Company) Application for a Certificate of Public Convenience and Necessity for the Okanagan Capacity Upgrade Project (Application)	Submission Date: May 13, 2021
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1 **26.0 Topic: Peak demand estimates**

2 **Reference: Exhibit B-2, FEI Response to BCUC IR1 8.4, pdf p.47**

3 “FEI’s peak demand forecast does not directly consider the potential impact of climate
4 change on the DDD. FEI is not aware of a reliable method to forecast future changes in
5 extreme weather either in severity or frequency (especially in the cold temperatures
6 which set FEI’s peak demand).

7 However, FEI does apply trends in recent weather history (that may reflect climate
8 change impacts) by periodically re-adjusting the DDD temperature used to estimate
9 peak demand. FEI last updated the DDD for each of the 22 weather zones in its
10 operating territory in 2017. These updates examined the weather history in each weather
11 zone over the preceding 60 years. The last update resulted in a warming in the DDD
12 temperature in most weather zones. For example, in the case of the north and central
13 Okanagan, the DDD changed from a 45.0 degree day to a 43.9 degree day. This
14 represented a warming of 1.1°C in the design temperature. The Thompson region DDD
15 warmed by 2.2°C and the South Okanagan by 0.9°C. This results in lower peak demand
16 estimates for customers in these regions than would have been calculated using the
17 DDD values in use prior to 2017.” [underline added]

18 26.1 Are the adjustments in 2017 for Design Day Demand (DDD) reflected in the
19 forecast shown in Figure 3-6: ITS Historical and Forecast Peak Demand?

20
21 **Response:**

22 Yes. FEI has used the warmer design temperatures to calculate peak demand since 2017. This
23 is reflected in the peak demand values from 2017 onward shown in Figure 3-6 of the Updated
24 Application.

25



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1 **27.0 Topic: Kelowna population growth forecast**

2 **Reference: Exhibit B-9, FEI Response to BCSEA IR1, Attachment 3.9**

3 On page 16 of the Updated Application, FEI states that Kelowna’s average annual
4 growth rate of 1.6 percent is forecast to continue for the next 20-year period. The
5 reference is Footnote 9, which states “Population projections prepared for FBC by BC
6 Stats.” BCSEA asked for a copy of the reference. In Exhibit B-9, Attachment 3.9 FEI
7 provided a “copy of the fully functional Excel spreadsheet containing the source data
8 referenced in footnote 9 on page 16 of the Updated Application.”

9 The Excel spreadsheet provides numbers, but no formulas or a key to the Region codes.

10 27.1 Can FEI please explain the basis for the forecast that Kelowna’s average annual
11 growth rate of 1.6 percent will continue for the next 20-year period? Is this
12 forecast simply the result of extrapolating the Kelowna’s historical average
13 annual growth rate of 1.6 percent? Did BC Stats provide FEI with an analysis of
14 Kelowna’s prospects for future population growth?

15
16 **Response:**

17 For clarity, FEI did not intend to imply that the future growth rate would match the historic 1.6
18 percent, only that growth is expected to continue in the Kelowna region.

19 The referenced quote on page 16 of the Updated Application is as follows:

20 “During the 20-year period from 1996 to 2016, Kelowna’s population increased
21 by over 37 percent. This represents an average annual growth rate of 1.6 percent
22 and is forecast to continue for the next 20-year period.”

23 The excerpt above was intended to provide the growth rate over the last 20 years (for Kelowna
24 region including Lake Country area), and to state that growth is projected to continue over the
25 next 20 years (although at a rate lower than 1.6 percent).

26 Actual projected population totals for each year for the region are provided to FEI by BC Stats
27 and are included in the previously provided spreadsheets. The growth rate for each of the sub-
28 regions is calculated from these population projections by a simple calculation of growth
29 percentage from one year to the next:

30
$$\text{Growth Rate} = 100\% * \frac{(\text{Population}_{\text{Year } n+1} - \text{Population}_{\text{Year } n})}{\text{Population}_{\text{Year } n}}$$

31 Average growth rate over the next 20 years is the average of the growth rate from each year to
32 the following year using the equation above.

33 The table below is extracted from the previously provided spreadsheet, with a column added
34 using the above formula to show historical and projected growth rates in the City of Kelowna.
35 Using the values below, it can be seen that growth from the referenced years (1996 to 2016) in

1 the City of Kelowna was actually higher than the 1.6 percent reported for Kelowna region
 2 including the Lake Country area. Please refer to the second table, below, for these population
 3 projections.

4 **Table 1: City of Kelowna Population Projections**

Year	City of Kelowna	City of Kelowna Growth Rates – Calculated	20-Year Rolling Average Growth Rates – Calculated
1986	61,539	-	-
1987	63,246	2.8%	-
1988	65,600	3.7%	-
1989	69,123	5.4%	-
1990	73,200	5.9%	-
1991	77,570	6.0%	-
1992	82,235	6.0%	-
1993	86,050	4.6%	-
1994	88,951	3.4%	-
1995	91,550	2.9%	-
1996	94,061	2.7%	-
1997	96,411	2.5%	-
1998	98,029	1.7%	-
1999	99,127	1.1%	-
2000	100,366	1.2%	-
2001	101,593	1.2%	-
2002	102,981	1.4%	-
2003	104,110	1.1%	-
2004	105,639	1.5%	-
2005	108,225	2.4%	-
2006	111,324	2.9%	3.0%
2007	114,929	3.2%	3.0%
2008	117,990	2.7%	3.0%
2009	119,188	1.0%	2.8%
2010	119,703	0.4%	2.5%
2011	121,101	1.2%	2.3%
2012	122,675	1.3%	2.0%
2013	124,853	1.8%	1.9%
2014	127,895	2.4%	1.8%
2015	130,641	2.1%	1.8%



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Year	City of Kelowna	City of Kelowna Growth Rates – Calculated	20-Year Rolling Average Growth Rates – Calculated
2016	132,969	1.8%	1.7%
2017	135,403	1.8%	1.7%
2018	137,544	1.6%	1.7%
2019	139,237	1.2%	1.7%
2020	140,998	1.3%	1.7%
2021	142,821	1.3%	1.7%
2022	144,679	1.3%	1.7%
2023	146,573	1.3%	1.7%
2024	148,481	1.3%	1.7%
2025	150,381	1.3%	1.7%
2026	152,271	1.3%	1.6%
2027	154,149	1.2%	1.5%
2028	156,010	1.2%	1.4%
2029	157,847	1.2%	1.4%
2030	159,662	1.1%	1.5%
2031	161,450	1.1%	1.4%
2032	163,210	1.1%	1.4%
2033	164,942	1.1%	1.4%
2034	166,644	1.0%	1.3%
2035	168,317	1.0%	1.3%
2036	169,960	1.0%	1.2%
2037	171,574	0.9%	1.2%
2038	173,162	0.9%	1.2%
2039	174,729	0.9%	1.1%
2040	176,275	0.9%	1.1%
2041	177,044	0.4%	1.1%



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Table 2: City of Kelowna & Lake Country Population Projections

Year	Population	Annual Avg Growth Rate	20-Yr Avg Growth Rate
1996	102,021		
2001	110,995	1.7%	
2006	120,392	1.6%	
2011	131,835	1.8%	
2016	141,022	1.4%	1.6%
2021	149,705	1.2%	
2026	164,711	1.9%	
2031	177,072	1.5%	
2036	188,445	1.3%	1.5%
2041	199,031	1.1%	

2

3



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1 **28.0 Topic: Peak demand forecast**

2 **Reference: Exhibit B-9, FEI Response to BCSEA IR1 3.10**

3 FEI states:

4 “FEI calculates the peak demand for each customer relative to the design
5 temperature calculated for their associated regional index weather station. For
6 peak demand forecasting of the ITS, FEI assumes all four regions are at their
7 design temperature coincidentally. Consequently, all customers across the ITS
8 would be consuming their design day peak demand coincidentally.” [underline
9 added]

10 28.1 Is the assumption of coincidental design temperatures conservative,
11 directionally? If so, please discuss the quantitative impact of this assumption on
12 the timing of the need for the proposed Project.

13
14 **Response:**

15 FEI does not consider the coincidental occurrence of design temperatures to be conservative,
16 but rather to be reflective of typical winter weather patterns for the BC Interior. It is common for
17 the coldest days in each of the Interior regions served by the ITS to occur coincidentally, or very
18 nearly so, within a 24 hour period. Please also refer to the response to BCUC IR2 43.4 for
19 additional discussion and a table showing the coldest days in the regions.

20



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1 **29.0 Topic: Capacity-focused DSM**

2 **Reference: Exhibit B-9, FEI Response to BCSEA IR1 7.2**

3 Regarding the potential need for enhanced compression on the Southern Crossing
4 Pipeline to address future capacity needs in the Okanagan (subsequent to
5 implementation of the Project), FEI says capacity-focused demand-side management
6 measures currently have too much uncertainty to be incorporated into peak demand
7 forecasting. FEI says, “As FEI gathers more data over the following years, it may
8 become apparent that the future compression upgrade could be deferred based on a
9 lowering of the peak demand due to DSM.”

10 29.1 Is FEI committed to examining the potential of capacity-focused DSM to defer
11 future supply-side investments to meet peak demand?

12
13 **Response:**

14 Yes, FEI is committed to continuing to examine the potential of capacity-focused DSM to defer
15 infrastructure investments to the extent these DSM measures can demonstrate cost-effective
16 and meaningful reductions in peak demand. FEI will provide an update on this work as part of
17 its 2022 Long Term Gas Resource Plan filing.

18



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1 **30.0 Topic: Environmental Management Plan**

2 **Reference: Exhibit B-9, FEI Response to BCSEA IR1 19.2**

3 “19.2 What steps will FEI take to prevent damage to the three community watersheds
4 intersected by the proposed OLI PEN 406 Extension during and after construction?”

5 Response:

6 FEI, in collaboration with its environmental consultant, the Penticton Indian Band, and
7 the Westbank First Nation, are currently developing the Environmental Management
8 Plan (EMP) for the Project. The EMP will prescribe the requirements needed to mitigate
9 environmental impacts within the Project area, including the three community
10 watersheds ... “

11 30.1 Please describe the current status of the development of the Environmental
12 Management Plan, in general and specifically regarding the three community
13 watersheds intersected by the proposed OLI PEN 406 Extension.

14
15 **Response:**

16 The Environmental Management Plan (EMP) for the Project, including the three community
17 watersheds intersected by the proposed Project, is currently under development. The first draft
18 of the EMP is expected in early Q3 2021.

19 At a high level, the mitigation measures that would relate to community watershed protection will
20 include, but are not necessarily limited to, minimizing ground disturbance, installation of
21 appropriate erosion and sediment controls, spill prevention/response, environmental monitoring,
22 and timely restoration of any disturbed areas with native species to ensure water quality is not
23 impacted.