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July 14, 2023

Residential Consumer Intervener Association
c/o Midgard Consulting Inc.
Suite 828 – 1130 W Pender Street
Vancouver, B.C.
V6E 4A4

Attention: Peter Helland, Director

Dear Peter Helland:

Re: FortisBC Energy Inc. (FEI)

Application for a Certificate of Public Convenience and Necessity (CPCN) for the Okanagan Capacity Upgrade (OCU) Project (Application) ~ Project No. 1599152

Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing

On November 16, 2020, FEI filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-106-23 establishing a further regulatory timetable for the review of the Application, FEI respectfully submits the attached response to RCIA IR No. 1 on Supplementary Filing.

FEI requests that the response to RCIA Supplementary IR1 52.1 and 52.1.1, which is redacted in the public version, be filed on a confidential basis pursuant to Section 18 of the BCUC's Rules of Practice and Procedure regarding confidential documents as set out in Order G-72-23. The confidential information is commercially sensitive information that cannot be disclosed under the terms of an agreement between FEI and the Penticton Indian Band with respect to their negotiations. Further, the confidential information should remain confidential in perpetuity as disclosure may harm or prejudice negotiations with other parties in the future. The confidential responses are being filed with the BCUC under separate cover and will be made available to registered parties with signed Confidentiality Declarations and Undertakings filed on the record in this proceeding.

For convenience and efficiency, if FEI has provided an internet address for referenced reports instead of attaching the documents to its IR responses, FEI intends for the referenced documents to form part of its IR responses and the evidentiary record in this proceeding.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Sarah Walsh

Attachments

cc (email only): Commission Secretary
Registered Interveners

FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 1

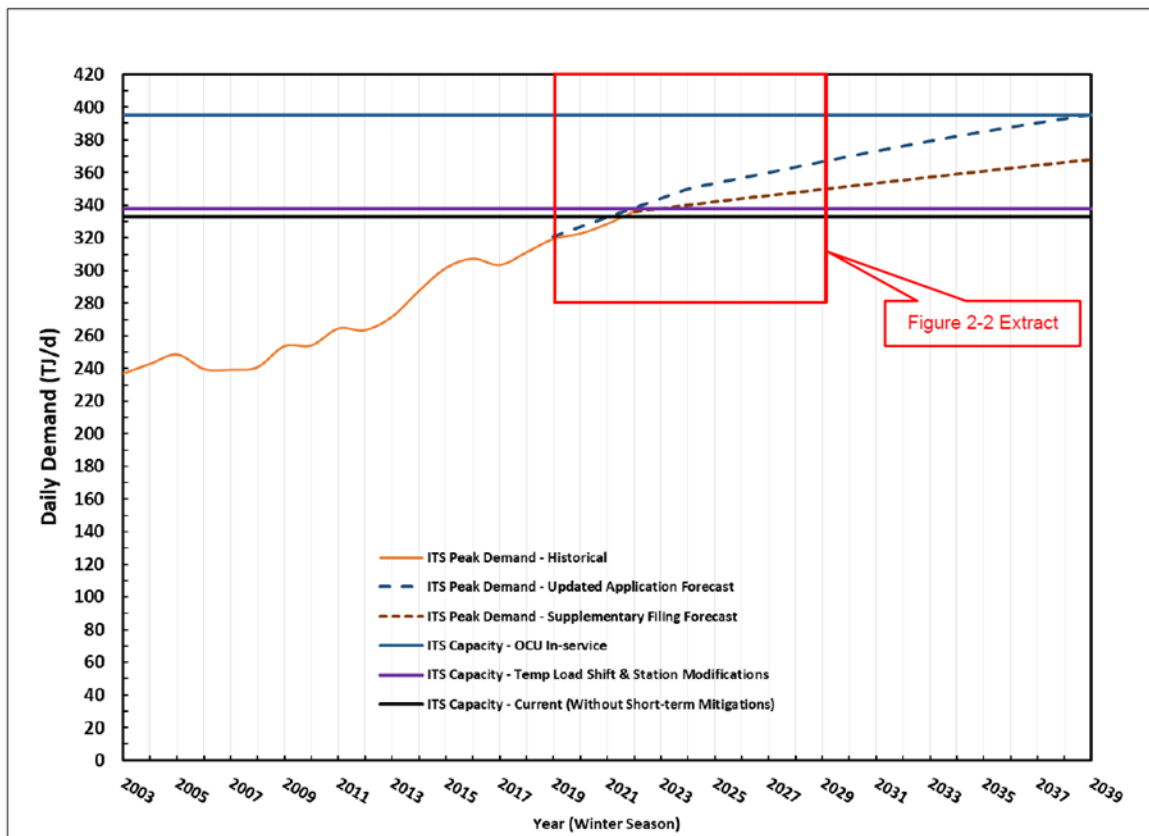
1 **50. Reference: Exhibit B-35 Supplementary Filing pp.1,4; B-1 Application pp. 38-43**
 2 **Re-Scoping of Alternatives**

3 On page 1 of its Supplementary Filing, FEI states:

4 **Section 4: Description and Evaluation of Alternatives** – FEI notes that there
 5 are no updates to the evaluation of alternatives considered and selection of the
 6 preferred solution discussed in Section 4 of the Updated Application.

7 On page 4 of its Supplementary Filing, FEI shows that the revised forecast ITS demand
 8 does not reach the ITS capacity with the OCU in service over the study period:

Figure 2-1: Supplementary Filing Peak Demand Forecast



9
 10 Pages 38 to 43 of the Updated Application identify three feasible alternatives to address
 11 the capacity shortage in the Okanagan region:

- 12 1) upgrades to VER PEN 323,
 13 2) extension of the OLI PEN 406 for 6 km with upgrades to VER PEN 323,
 14 3) extension of the OLI PEN 406 for 30 km,
 15 4) Savona 508 mm loop to east of Kamloops, and

FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 2

1 5) LNG peaking facility near Vernon.

2
3 50.1 Please confirm whether FEI considered re-scoping the preferred Alternative 3 to
4 take into account the reduced demand growth. Changes to Alternative 3 could
5 include a smaller diameter pipeline or a shorter length (i.e., relocate the proposed
6 Chute Lake PRS to a point closer to Penticton, such as 6 km south where the right-
7 of-way crosses Chute Lake Road, or further south to avoid crossing Naramata
8 Creek). Any changes should still result in the OCU project meeting the revised
9 projected demand through the study period.

10 50.1.1 Please provide a graph showing the ITS peak demand based on the
11 supplementary forecast, the existing ITS capacity, the ITS capacity with
12 the Alternative 3 OLI PEN 406 extension, and the ITS capacity with a
13 modified Alternative 3 that shortens the OLI PEN 406 extension.

14 50.1.2 Please explain why FEI is not pursuing such options, or if FEI did
15 consider them, why these options are inferior to the proposed option.

16 50.1.3 Please estimate the change in cost of such of options compared to the
17 original cost considered in the evaluation (that is, estimate how the
18 original cost estimates would change, not how the costs updated in the
19 Supplementary Filing would change).

20
21 **Response:**

22 Please refer to the responses to the BCUC Supplementary IR1 13 series.

23
24
25
26 50.2 Please confirm whether FEI considered re-scoping Alternative 1 to take into
27 account the reduced demand growth. Changes to Alternative 1 could include
28 replacing only those segments closer to Penticton and installing a new control
29 station between Penticton and Kelowna (so as to increase the MOP of VER PEN
30 323 up to the new control station) or eliminating the upgrade to the Coldstream
31 lateral. Any changes should still result in the OCU project meeting the revised
32 projected demand through the study period.

33 50.2.1 Please provide a graph showing the ITS peak demand based on the
34 supplementary forecast, the existing ITS capacity, the ITS capacity with
35 the Alternative 1 modifications, and the ITS capacity with a modified
36 Alternative 1 that increases the MOP of VER PEN 323 for only a portion
37 of the originally proposed 35.5 km length.

38 50.2.2 Please explain why FEI did not consider such options, or if FEI did
39 consider them, why these options are inferior to the proposed option.

FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 3

1 50.2.3 Please estimate the change in cost of such of options compared to the
2 original cost considered in the evaluation (that is, estimate how the
3 original cost estimates would change, not how the costs updated in the
4 Supplementary Filing would change).

5
6 **Response:**

7 FEI reviewed Alternative 1 in consideration of the Supplementary Filing Forecast and found that
8 there was no opportunity to reduce the scope.

9 With the elimination of the Coldstream lateral upgrade and the remainder of the scope of
10 Alternative 1 staying as defined in Section 4.3.1 of the Updated Application, the alternative would
11 only provide sufficient capacity for the region until 2040, which no longer meets the 20-year
12 planning criteria. Therefore, there was no opportunity to re-scope when considering the reduced
13 demand forecast in the Supplementary Filing. As a result, FEI has not prepared and is unable to
14 provide the requested cost estimate and graph of the ITS capacity for a re-scoped Alternative 1.

15 Please refer to the responses to BCUC Supplementary IR1 11.1 and 16.17 for a description of
16 FEI's review and consideration of the alternatives evaluation. Based on this review, and in
17 consideration of the Supplementary Filing Forecast, FEI determined that the originally selected
18 alternative, an extension of the existing OLI PEN 406 pipeline, remains the preferred alternative.

19
20

21
22 50.3 Please confirm whether FEI considered re-scoping Alternative 2 to take into
23 account the reduced demand growth. Changes to Alternative 2 could include
24 replacing fewer segments (or none at all) or eliminating the hydrotest (if the existing
25 VER PEN 323 MOP is sufficient). Any changes should still result in the OCU project
26 meeting the revised projected demand through the study period.

27 50.3.1 Please provide a graph showing the ITS peak demand based on the
28 supplementary forecast, the existing ITS capacity, the ITS capacity with
29 the Alternative 2 OLI PEN 406 extension, and the ITS capacity with a
30 modified Alternative 2 OLI PEN 406 extension that maintains the current
31 VER PEN 323 MOP.

32 50.3.2 Please explain why FEI did not consider such options, or if FEI did
33 consider them, why these options are inferior to the proposed option.

34 50.3.3 Please estimate the change in cost of such of options compared to the
35 original cost considered in the evaluation (that is, estimate how the
36 original cost estimates would change, not how the costs updated in the
37 Supplementary Filing would change).

38

FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 4

1 **Response:**

2 FEI reviewed Alternative 2 in consideration of the Supplementary Filing Forecast and found that
3 there was no opportunity to reduce the scope.

4 With the scope of Alternative 2 staying as defined in Section 4.3.1 of the Updated Application, the
5 alternative would provide sufficient capacity for the region until 2045. There was therefore no
6 opportunity to re-scope this alternative in light of the reduced demand. As a result, FEI has not
7 prepared and is unable to provide a revised cost estimate or graph with the ITS capacity for a re-
8 scoped Alternative 2.

9 Please refer to the responses to BCUC Supplementary IR1 11.1 and 16.17 for a description of
10 FEI's review and consideration of the alternatives evaluation. Based on this review, and in
11 consideration of the Supplementary Filing Forecast, FEI determined that the originally selected
12 alternative, an extension of the existing OLI PEN 406 pipeline, remains the preferred alternative.

13

14

15

16 50.4 Please explain whether and how the reduced ITS demand forecast in the
17 Supplementary Filing changes the feasibility of Alternatives 4 (Savona extension)
18 or 5 (LNG facility near Vernon).

19

20 **Response:**

21 Please refer to the response to BCUC Supplementary IR1 11.1.2.

22

FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 5

1 **51. Reference: Exhibit B-35 Supplementary Filing pp.3,5**

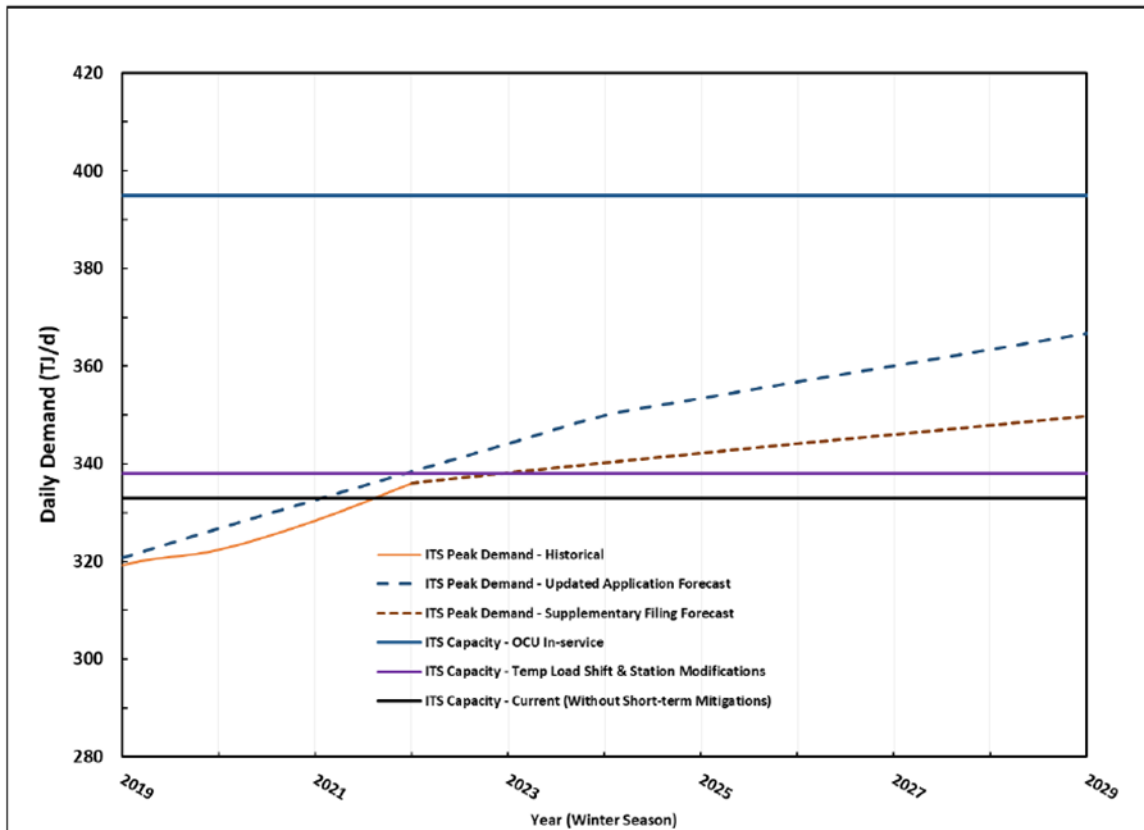
2 **Change in Peak Demand Forecast**

3 On page 3 of its Supplementary Filing, FEI states:

4 *When comparing the Supplementary Filing Forecast to the forecast used in the*
 5 *Updated Application, FEI observes that gas demand is still expected to increase,*
 6 *but at a lower rate.*

7 On page 5 of its Supplementary Filing, FEI shows that the revised forecast ITS demand:

Figure 2-2: Extract from Supplementary Filing Peak Demand Forecast



8

9 51.1 Please provide the main reasons for the reduction in historical peak demand
 10 compared to the peak demand previously forecasted in the OCU Updated
 11 Application for the years 2019 to 2022. Please address specific factors such as
 12 customer numbers and average consumption on a class by class basis.

13

14 **Response:**

15 Please refer to the response to BCUC Supplementary IR1 1.4.

16

17



FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 6

1
2 51.2 Please explain the main reasons why the demand is expected to increase at a
3 lower rate than previously forecasted in the OCU Updated Application.

4
5 **Response:**

6 Please refer to the response to BCUC Supplementary IR1 1.3.

7

FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 7

1 **52. Reference: Exhibit B-35 Supplementary Filing p.7**

2 **Assumptions – Pipeline Alignment**

3 On page 7 of its Supplementary Filing, FEI states:

4 *The following assumptions were used in preparing the updated estimate:*

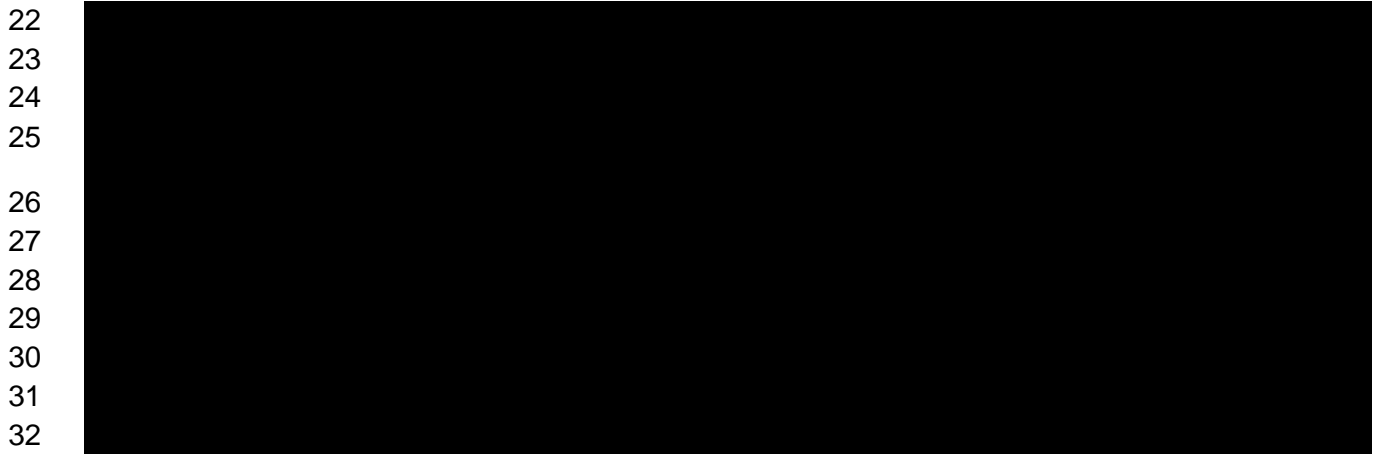
- 5 • *The alignment of the pipeline route described in the Updated Application*
6 *remained the same;*

7 52.1 Please confirm or otherwise explain whether FEI's consultations with Penticton
8 Indian Band have confirmed that no changes in pipeline alignment are required.

9 52.1.1 If changes in alignment are possible, please estimate the range of
10 additional costs that may be incurred and contrast these amounts with
11 the proposed project contingency or management reserve amounts.

12
13 **Response:**

14 This response is being provided on a confidential basis pursuant to Section 18 of the BCUC's
15 Rules of Practice and Procedure regarding confidential documents as set out in Order G-72-23.
16 The confidential information is commercially sensitive information that cannot be disclosed under
17 the terms of an agreement between FEI and the PIB with respect to their negotiations. Further,
18 the confidential information should remain confidential in perpetuity as disclosure may harm or
19 prejudice negotiations with other parties in the future. The confidential response will be filed with
20 the BCUC under separate cover and will be made available to registered parties with signed
21 Confidentiality Declarations and Undertakings filed on the record in this proceeding.



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FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 8

1 **53. Reference: Exhibit B-35 Supplementary Filing pp.7,8**

2 **Labour and Equipment Rates**

3 On page 7 of its Supplementary Filing, FEI states:

4 *One of the contractors engaged for both of the above projects provided bids in*
5 *2023\$ for equipment and labour resources which can be used as a basis to*
6 *estimate costs for other pipeline construction projects.*

7 On page 8 of its Supplementary Filing, FEI states:

8 *For each of these labour and equipment rates, the 2023 unit rates used in the IGU*
9 *and EGP projects were reviewed and the average of the two rates was computed.*
10 *The average change in labour rates was an approximately 8.9 percent increase*
11 *and the average change in equipment rates was an approximately 8.8 percent*
12 *increase. These percent increases were applied to each of the labour and*
13 *equipment resource rates in the estimate. This maintains the validity of the original*
14 *estimate basis as it is consistent with how the inflation metric is computed by*
15 *analyzing the net impact on prices rather than focusing on individual items.*

16 53.1 Please provide the dates when the 2023 unit rates for the IGU and EGP projects
17 were bid.

18 53.1.1 If the unit rates were bid prior to 2023, please explain how FEI has taken
19 into account any escalation in the unit rates that may have occurred since
20 the time these bids were submitted.

21
22 **Response:**

23 The 2023 rates used to update the cost estimate were obtained in 2022 for the IGU project and
24 2023 for the EGP project.

25 The work taking place on the IGU project was competitively bid in 2022 and the successful
26 contractor presented rates for both 2022 as well as 2023. The estimate update for the OCU
27 Project used the 2023 rates so no escalation was required.

28 The EGP project is currently utilizing an Early Contractor Involvement (ECI) procurement model
29 where the contractor provided its bid in 2023 rates on an open book basis so no adjustment for
30 escalation was required.

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34 53.2 Please explain why FEI is using the bids from only one of the contractors engaged
35 for the IGU and EGP projects to estimate the costs for the OCU project. Are there

FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 9

1 other contractors on the IGU and EGP projects whose bids are relevant to the OCU
2 project?

3 53.2.1 If there are other contractor bids that are relevant to the OCU project,
4 please calculate an appropriate escalation factor and compare with the
5 escalation assumed in the Supplementary Filing.

6

7 **Response:**

8 Please refer to the response to BCUC Supplementary IR1 16.4.

9

1 **54. Reference: Exhibit B-35 Supplementary Filing pp.9,14**

2 **Capital and Deferred Costs Including Project Development Costs**

3 On page 9 of its Supplementary Filing, FEI provides a table showing the summary of
4 capital and deferred costs:

Table 3-1: Summary of Forecast Capital and Deferred Costs (\$ millions)

Line	Particular	Updated Application (\$Millions)	Supplementary Filing (\$Millions)	Change
1	Construction Cost Estimate (Contractor)	153.486	176.969	23.483
2	Owner's Costs (FEI)	25.137	35.855	10.718
3	Inspection Services (FEI)	8.637	8.689	0.052
4	AC Mitigation, Cathodic Protection, Deactivation (FEI)	0.700	0.755	0.055
5	Subtotal Construction Capital Cost Estimate	187.960	222.268	34.308
6	Contingency	25.100	28.400	3.300
7	Cost Escalation Estimate	11.611	10.185	(1.426)
8	Subtotal w/ Contingency & Escalation	224.671	260.853	36.237
9	CPCN Application Costs	0.400	0.555	0.155
10	Project Development Costs	7.864	17.706	9.841
11	Subtotal w/ Application and Development Costs	232.935	279.114	44.807
12	Management Reserve	23.600	27.800	4.200
13	AFUDC	16.834	22.969	6.136
14	Income Tax Recovery	(2.034)	(2.473)	(0.439)
15	Total Project Cost Estimate (As-Spent)	271.335	327.410	54.704

5
6 On page 14 of its Supplementary Filing, FEI states:

- 7 • *Project Development Costs, which can be further broken down into the following:*
- 8 ○ *Preliminary Stage Development costs related to expenses incurred for*
 - 9 *engaging third-party consultants for feasibility evaluation, preliminary*
 - 10 *development, and assessment of the potential design and alternatives*
 - 11 *as required to complete the Application; and*
 - 12 ○ *Pre-Construction Development Costs include the costs related to the*
 - 13 *front-end engineering and design, CPCN development costs including*
 - 14 *environmental assessments, and Indigenous and stakeholder*
 - 15 *consultations.*

16 54.1 Please confirm the subtotals and totals highlighted in the table (i.e., lines 8, 11,
17 and 15).

18
19 **Response:**

20 Please refer to the response to BCUC Supplementary IR1 16.1.

FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 11

1
2 54.2 Please explain why Project Development Costs have increased by approximately
3 125%, from \$7.864 million to \$17.706 million.
4

5 **Response:**

6 FEI notes that the \$7.864 million shown in Table 3-1 of the Supplementary Filing was the actual
7 costs as of December 2020 for project development work up to the point of when the Updated
8 Application was filed in January 2021. On the other hand, the \$17.706 million is the actual costs
9 for project development up to March 2023.

10 As outlined in Section 3.3 of the Supplementary Filing, project development costs include the
11 costs associated with developing an AACE Class 3 cost estimate in accordance with AACE
12 International Recommended Practices Nos. 18R-97 and 97R-18 as required by the BCUC's
13 CPCN Guidelines, as well as additional work required to advance the OCU Project to date.

14 The increase of approximately \$9.8 million in project development costs since the filing of the
15 Updated Application is due to FEI advancing the engineering design to approximately 60 percent
16 completion, completing a portion of the geotechnical program, conducting environmental and
17 archaeological studies used to inform the alignment, and acquiring fee simple land.

18



FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: July 14, 2023
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Supplementary Filing	Page 12

1 **55. Reference: Exhibit B-35 Supplementary Filing p.10; Exhibit B-35-1 Confidential**
2 **Appendix A-2**

3 **Escalation**

4 On page 10 of its Supplementary Filing, FEI states:

- 5 • *A P50 escalation value of \$10.185 million during the project from 2023 to 2026,*
6 *as determined by Validation Estimating and provided in Confidential Appendix A-*
7 *2, applied to a base cost estimate of \$222.268 million plus a contingency of*
8 *\$28.400 million. The escalation is used to convert the project capital cost estimate*
9 *from 2023 dollars to as-spent dollars; [footnotes eliminated]*

10 Confidential Appendix A-2 is a report from Validation Estimating LLC on project escalation.

11 55.1 Please summarize the reasons why the P50 escalation value has declined from
12 the Updated Application, considering the higher capital cost estimate and
13 contingency as well as the current high inflation environment which was not
14 present when the original escalation estimate was prepared. If possible, please
15 provide the response in a format that can be made publicly available.

16
17 **Response:**

18 FEI retained Validation Estimating LLC to conduct the escalation analysis. The Validation
19 Estimating LLC report states the following:

20 The IHS Markit Q1 2023 forecast reflects a recessionary scenario with limited price
21 escalation (including decreases in steel prices) through 2024. This follows
22 significant price and capital spending increases in 2021 and 2022. The weighted
23 annual price increase is forecast to be less than 2 percent per year through 2026.
24 The probabilistic analysis, which takes into account the historical standard
25 deviation in price changes from the mean, results in a significant range. Given the
26 recessionary base scenario, there is more risk on the up (i.e., p90) than the
27 downside (i.e., p10).

28 The IHS Markit forecast where Validation Estimating LLC obtains various cost and price indices
29 predicts escalation to stabilize with much less (and normal) growth each year. While escalation
30 is still a concern with the current high inflation environment, it is forecasted to be significantly less
31 than what was observed in prior years.

32