



Diane Roy
Vice President, Regulatory Affairs

Gas Regulatory Affairs Correspondence
Email: gas.regulatory.affairs@fortisbc.com

Electric Regulatory Affairs Correspondence
Email: electricity.regulatory.affairs@fortisbc.com

FortisBC
16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (604)576-7349
Cell: (604) 908-2790
Fax: (604) 576-7074
www.fortisbc.com

November 10, 2021

Mr. James Langley
Sentinel Energy Management Inc.
PO Box 1342
Comox, BC
V9M 7Z8

Attention: Mr. James Langley,

Dear Mr. Langley:

Re: FortisBC Energy Inc. (FEI)

Application for a Certificate of Public Convenience and Necessity (CPCN) for the Tilbury Liquefied Natural Gas (LNG) Storage Expansion (TLSE) Project (Application)

Response to the Sentinel Energy Management Inc. (Sentinel) Information Request (IR) No. 2

On December 29, 2021, FEI filed the Application referenced above. In accordance with the regulatory timetable established in British Columbia Utilities Commission Order G-185-21 for the review of the Application, FEI respectfully submits the attached response to Sentinel 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 (CPCN) for the Tilbury Liquefied Natural Gas (LNG) Storage Expansion (TLSE) Project (Application)	Submission Date: November 10, 2021
Response to Sentinel Energy Management (Sentinel) Information Request (IR) No. 2	Page 1

1 Throughout FEI's responses to SEM and others attempting to explore alternatives to the TLSE
2 proposal FEI seems to be concentrating on the premise that there is no other single, practical
3 system resiliency measure that can compete with the TLSE.

4 1. Can FEI please comment on the system resiliency benefits of a suite of measures that
5 together may be sufficient (at least in the eyes of the ratepayers) to address system
6 resiliency concerns rather than a single resiliency facility?
7

8 **Response:**

9 Taking into consideration the unique characteristics and configuration of FEI's Lower Mainland
10 system, FEI identified the TLSE Project as the only feasible resiliency solution to address the
11 most critical risk to its customers, namely the inability to withstand a no-flow event without
12 significant load loss (as reflected in the Minimum Resiliency Planning Objective).

13 However, FEI has also emphasized throughout this proceeding that there is no single approach
14 for building resiliency on its system. For example, as discussed in the response to BCUC IR1
15 10.6, FEI is proceeding with a suite of investments that will enhance all three key elements that
16 contribute to natural gas system resiliency (Diverse Pipelines and Supply, Ample Storage, and
17 Load Management).

18 Please also refer to the response to CEC IR1 18.1 for the decision criteria that established that
19 the portfolio approach to resiliency was the most cost-effective and optimal approach to enhance
20 system resiliency for FEI and its customers.
21

22
23

24 Please consider the following questions in the light of a suite of measures (where applicable)
25 rather than a single response to the resiliency question.

26 **IR 1 Q1 FEU response I 25-26:**

27 A variant of this alternative could involve an expansion of storage at JPS but would still require a
28 significant Northwest pipeline system configuration.

29 2. Please describe what investigations FEU has undertaken to investigate this alternative?
30 What cost has been offered? What expansion size is available? In what time frame? Please
31 describe in required detail the "significant Northwest Pipe system configuration" and an
32 estimate of associated costs.
33

34 **Response:**

35 FEI clarifies that the alternative discussed in the preamble above pertained to the question of
36 whether Northwest Pipeline (NWP) could deliver 800 MMcf/day to the Lower Mainland. As
37 explained below, this scenario would require FEI to underwrite both an expansion at the Jackson
38 Prairie Storage (JPS) facility and a pipeline expansion on the NWP system.

FortisBC Energy Inc. (FEI or the Company) Application for a Certificate of Public Convenience and Necessity (CPCN) for the Tilbury Liquefied Natural Gas (LNG) Storage Expansion (TLSE) Project (Application)	Submission Date: November 10, 2021
Response to Sentinel Energy Management (Sentinel) Information Request (IR) No. 2	Page 2

1 In the response to CEC IR1 25.1, FEI discussed why underwriting an expansion to the JPS facility
2 was not fully investigated, which included the following reasons:

- 3 • It is not a viable alternative to address the risk of a no-flow event on the T-South system,
4 as FEI would still need to rely on displacement, especially during the winter season. In
5 order for FEI to avoid relying on the displacement process during the winter, NWP would
6 have to expand the north end of its system; and
- 7 • It is FEI's understanding that there are constraints to future reservoir expansions at JPS
8 so there are no plans for future development at this time.

9
10 In addition to the reasons discussed above, FEI did not investigate the JPS alternative further
11 because off-system storage resources would not be in FEI's control, which is a critical limitation
12 to FEI's ability to maintain continuity of service during the initial phase of an emergency event.

13 In order for NWP to deliver 800 MMcf/day, the system would require a significant re-configuration
14 as the north end of the pipeline is designed to physically transport gas north to south (i.e., from
15 Westcoast to NWP) in normal operations. FEI has had discussions with NWP and confirmed that
16 a portion of supply is required to physically flow southbound on T-South into NWP, in order to
17 meet the gas demand on the north end of this system during the winter season. NWP was not
18 able to provide FEI the exact amount required to physically flow southbound; however, FEI
19 believes it would likely be between 400 to 500 MMcf/day. Therefore, the size of the expansion
20 would have to be greater than 1 Bcf/day to have NWP deliver the required 800 MMcf/day to the
21 Lower Mainland during the winter season.

22 Further, this expansion would likely involve a combination of pipeline and compressor upgrades
23 within the 350 km distance between the JPS facility and the Canadian border. An expansion of
24 this scale has not been proposed by NWP; therefore, FEI cannot provide a timeframe or cost
25 estimate for this scenario.

26 Finally, as discussed in the response to Sentinel IR1 1, FEI does not believe there is sufficient
27 market interest to support an expansion of this size, thus requiring its costs to be borne largely by
28 FEI. Please also refer to the response to BCUC IR1 16.3 where FEI discusses why a pipeline
29 expansion of this size would not be a cost-effective approach to improving system resiliency.

30

31

32

33 **IR 1 Q13a FEU response I 14-17:**

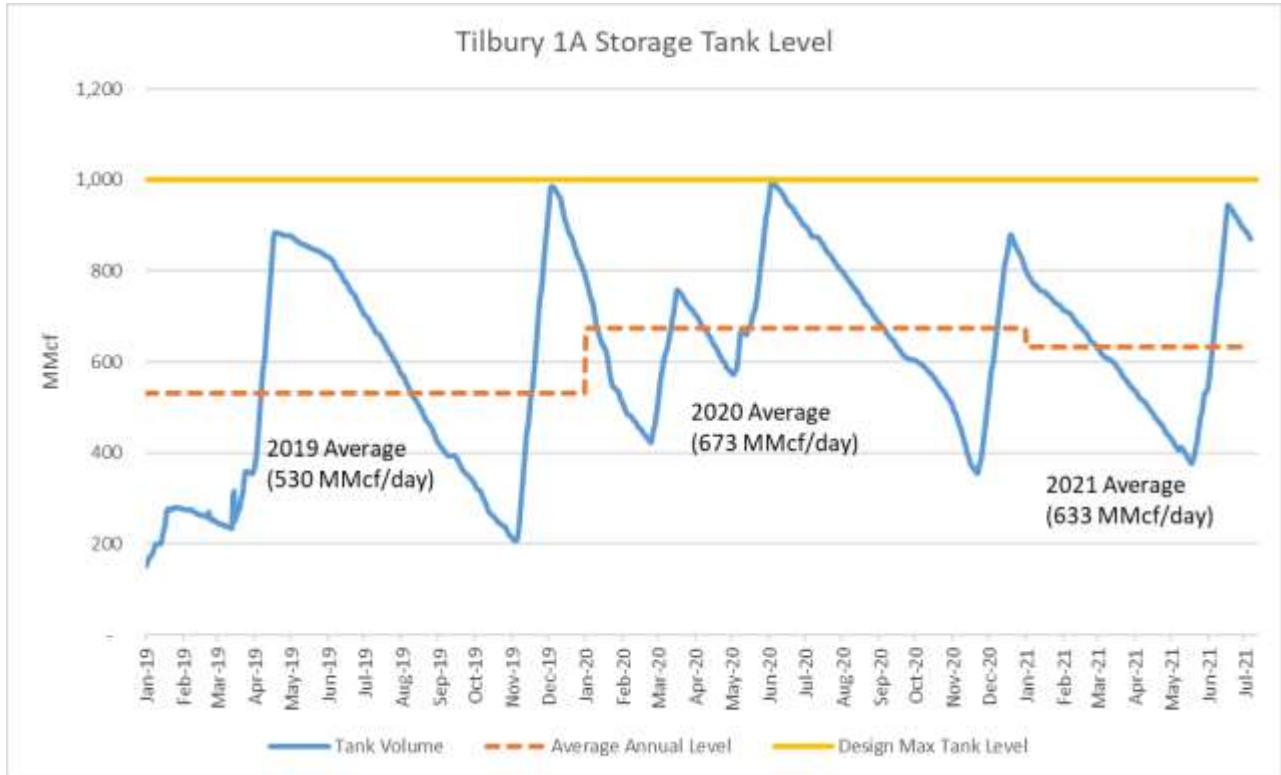
34 FEU cannot rely on the Tilbury T1A tank from a planning perspective for resiliency purposes
35 because FBI's LNG customers are taking LNG service and drawing down LNG volumes in storage
36 in the ordinary course of business.

37 3. Please provide daily storage levels in the T1A tank since inception.

38

1 **Response:**

2 The Tilbury 1A or “T1A” storage tank levels were provided as part of the response to BCUC IR1
 3 11.9.2 and are reproduced below:



4
5
6
7

8 **IR 1 Q13a FEU response | 20-21**

9 FEIs non-bypass customers also receive the revenues from LNG sales under Rate Schedule 46.

10 4. Please provide the revenues received by non-bypass customers from LNG sales under
 11 Rate Schedule 46 since inception.

12
13

13 **Response:**

14 Please refer to the table below for the revenues from LNG sales since inception. FEI notes that
 15 LNG sales started in 2012 under Rate Schedule (RS) 16. Starting January 2014, and as approved
 16 by Order G-211-13, FEI’s LNG sales now fall under RS 46. FEI notes its LNG sales were
 17 negatively impacted by the COVID-19 pandemic in 2020.

18

	2012	2013	2014	2015	2016	2017	2018	2019	2020
RS16/46 Revenue - Actual (\$000s)	1,967	1,365	4,550	4,760	5,475	7,693	13,503	14,141	12,593

FortisBC Energy Inc. (FEI or the Company) Application for a Certificate of Public Convenience and Necessity (CPCN) for the Tilbury Liquefied Natural Gas (LNG) Storage Expansion (TLSE) Project (Application)	Submission Date: November 10, 2021
Response to Sentinel Energy Management (Sentinel) Information Request (IR) No. 2	Page 4

1

2

3

4 **IR 1 Q20 FEU response I 2-5:**

5 FEI believes that Westcoast at no time indicated or implied to its shippers that the Integrity cost it
6 was seeking to recover for 2020 or 2021 were an “additional dollar amount” for integrity
7 assessment management required specifically in response to the 2018 rupture of the T South
8 system.

9 In the table provided by FEI it is noted for the period 2016 through 2019 the combined O&M and
10 Capital costs averaged \$46.4M/yr but were \$105.9M/yr for 2020-2021.

11 5. Is it FEI’s position then that this increase of more than twice the expenditure after the
12 rupture was merely a coincidence? If not please explain the increase. Please confirm that
13 as a significant holder of WEI T south firm service FEI will pass on any and all WEI costs
14 to its ratepayers through midstream cost recovery.

15

16 **Response:**

17 FEI is unable to comment on the reasons why the level of integrity expenditures by Westcoast for
18 its system is significantly higher for 2020/2021 compared to those over 2016 to 2019. The level
19 of these expenditures was the result of negotiations that Westcoast conducted with its shippers
20 as part of successive revenue requirement settlement agreements. FEI is of the view that the
21 level of these expenditures reflects what Westcoast believed was required to provide safe and
22 reliable service. The increased level of integrity spending after 2019 was also presumably
23 informed by the understanding of Westcoast of the requirements to safely and reliably operate T-
24 South following the 2018 rupture, including commitments made to the Canada Energy Regulator
25 (CER) to reduce the time between inline inspections and the addition of resources to address
26 integrity management priority areas.

27 With respect to its recovery of tolls paid for the use of Westcoast capacity, FEI confirms that these
28 costs are included in the storage and transportation (midstream) charges paid by customers.

29

30

31

32 **IR 1 Q21 FEU response I 33:**

33 The transport vessels with the capability to transit the lower Fraser to the Tilbury location would
34 only be able to hold a maximum of approximately 90,000 to 100,000 M³ of LNG.

35 6. Please provide conversion of the above LNG volumes to GJs of natural gas at a heat value
36 of 40 GJ's/10³ m³. Please provide the capacity of any existing jetty for delivery of LNG to a
37 marine transport vessel and/or the capacity of any contemplated jetty for planned LNG
38 delivery to a marine transport vessel whether by FEI or others.

FortisBC Energy Inc. (FEI or the Company) Application for a Certificate of Public Convenience and Necessity (CPCN) for the Tilbury Liquefied Natural Gas (LNG) Storage Expansion (TLSE) Project (Application)	Submission Date: November 10, 2021
Response to Sentinel Energy Management (Sentinel) Information Request (IR) No. 2	Page 5

1

2 **Response:**

3 FEI notes that this question is not related to the TLSE Project, but provides the following response.

4 100,000 cubic metres (m³) of LNG is equivalent to 2,500,000 GJ of natural gas at a heat value of
5 40 GJ/10³ m³. There is currently no jetty at the Tilbury site; however, the Tilbury Marine Jetty
6 Project is proposed at the site by Tilbury Jetty Limited Partnership, to be jointly owned by Fortis
7 LNG Jetty Limited Partnership and Seaspan. This would include a bunkering jetty, and potentially
8 an export jetty. The bunkering jetty will be designed to accommodate bunkering vessels up to
9 approximately 30,000 m³, and will be used to provide LNG marine fuel to LNG vessels in the
10 Pacific Northwest, with a focus on vessels calling at the Port of Vancouver. The potential export
11 jetty would be for larger scale LNG exports. If the marine export jetty at the Tilbury site ultimately
12 proceeds, it will be designed and constructed to accommodate the size of the customers' vessels.
13 Currently, the Port of Vancouver's Fraser River TCZ procedures (TCZ-4) place limits on the
14 maximum size of LNG vessels on the Fraser River, and with these size limitations, it is expected
15 that the maximum volume of LNG these vessels will be able to accommodate is approximately
16 100,000 m³.

17

18

19

20 **IR 1 Q35 FEU response I 31-32:**

21 FEI cannot assume reconfiguration because the compressors are not configured to flow west to
22 east and are not located for effective flow in that direction.

23 7. Please complete a system analysis showing west to east capacity as a function of one
24 compressor optimally located on the Vancouver Island system to maximize V1 delivery.
25 What would that delivery be?
26

26

27 **Response:**

28 The requested analysis was already explored at high-level in the response to BCUC IR1 11.8. In
29 that response FEI explained how the scope of a project to move the equivalent volume of gas
30 from the Mt. Hayes LNG facility from west to east into the Coastal Transmission System (CTS)
31 would be significantly larger and more costly than the proposed TLSE Project. For clarity, it would
32 take significantly more than a single compressor optimally located on the Vancouver Island
33 Transmission System (VITS) to appreciably increase the reverse flow capability of the system. In
34 addition to new compressors, this approach would also require additional pipelines in the VITS
35 and the Coquitlam watershed along with corresponding expansions at the Mt. Hayes facility.

FortisBC Energy Inc. (FEI or the Company) Application for a Certificate of Public Convenience and Necessity (CPCN) for the Tilbury Liquefied Natural Gas (LNG) Storage Expansion (TLSE) Project (Application)	Submission Date: November 10, 2021
Response to Sentinel Energy Management (Sentinel) Information Request (IR) No. 2	Page 6

1

2

3

4 **IR 1 Q48 FEU response I 17-18:**

5 Additionally, FEI anticipates that by 2025 it will have contracts in place for approximately 24 million
6 GJ's of renewable gas....

7 8. Please provide approximate percentages of the make up of the above quantity as
8 biomethane, hydrogen, syngas or other.

9

10 **Response:**

11 FEI's current (Q4 2021) Renewable Gas Supply outlook (to 2025) projects that approximately 95
12 percent of the renewable gas under contract by 2025 will be biomethane. FEI expects that
13 hydrogen, syngas, or other renewable gases under contract by 2025 will likely represent a smaller
14 percentage of the overall supply portfolio. FEI is assessing hydrogen opportunities that would
15 increase the overall percentage of hydrogen and syngas beyond 2025.

16

17

18

19 **IR 1 Q73 FEU response I 20-22:**

20 If the application for the TLSE project is denied there would be a resulting gap related to one of
21 the key elements of system resiliency: Ample Storage.

22 9. Confirm that FEI and its core market customers have lived with a "gap" in system resiliency
23 almost since the creation of BC's natural gas system in that any complete failure of the
24 Westcoast pipeline system anywhere near the Lower Mainland has risked massive system
25 outage since the beginning. If the core and FEI have lived with this situation for the last 60
26 odd years, why the rush to close this gap now, particularly in light of the current questions
27 surrounding fossil fuel use?

28

29 **Response:**

30 Not confirmed. When the Tilbury LNG facility was commissioned in 1971, it enhanced the
31 resiliency of the Lower Mainland gas system by adding on-system storage and regasification
32 capacity. The capacity of Tilbury (both in terms of storage volume and regasification) was more
33 closely matched with the Lower Mainland load at that time. As such, the Tilbury Base Plant
34 provided an appropriate level of peaking capacity for many years, mitigating gas supply
35 commercial risks and supporting operational flexibility through its ability to inject gas directly into
36 the CTS during times of system constraints. However, FEI's customer base in the Lower Mainland
37 has grown dramatically over time, where today, the Tilbury Base Plant storage and regasification
38 capacity is proportionally smaller and no longer appropriately sized relative to its customer load
39 in the region.

FortisBC Energy Inc. (FEI or the Company) Application for a Certificate of Public Convenience and Necessity (CPCN) for the Tilbury Liquefied Natural Gas (LNG) Storage Expansion (TLSE) Project (Application)	Submission Date: November 10, 2021
Response to Sentinel Energy Management (Sentinel) Information Request (IR) No. 2	Page 7

1 FEI's existing residential, commercial, institutional, and industrial customers depend on a reliable
2 supply of natural gas for heating, hot water, cooking, and industrial process purposes. The T-
3 South Incident underscored the extent of FEI's exposure to a no-flow event on T-South. If this
4 gap is not addressed, a T-South no-flow event could result in a sudden, prolonged, and wide-
5 scale gas supply interruption that could directly or indirectly affect the livelihood, health, and safety
6 of virtually every resident of the Lower Mainland, regardless of whether they are a customer of
7 FEI or not. FEI thus considers the TLSE Project to be necessary and that it should proceed without
8 delay in order to minimize this risk to its customers and the public.

9

10

11

12 **IR 1 Q79 FEU response I 20-22:**

13 In this scenario, a maximum of only 1.3 Bcf of LNG (this is a maximum, as it requires assuming
14 that T1A volumes have not been depleted at all by LNG sales occurring in the ordinary course)
15 would be available to support resiliency which would fall short of the MRPO.

16 10. If the T1A is 1 BCF and the existing core tank is 660 mmcf, why would the maximum not
17 be 1.6 BCF? Please reconcile the above statement with FEI's response to SEM IR1 Q44.

18

19 **Response:**

20 It is correct that when considering the original design capacities of the T1A tank and Base Plant
21 tank the total LNG storage at the Tilbury site is 1.6 Bcf. However, as noted in Section 3.5.4.1.2
22 of the Application, FEI is currently operating the Base Plant tank at roughly 60 percent of its design
23 capacity, or 0.35 Bcf. It is also necessary to retain a level of LNG within the Base Plant tank to
24 ensure the proper operation of the LNG send out pumps which equates to roughly 0.5 Bcf.

25 Therefore, the useable LNG storage capacity at the Tilbury site is 1.0 Bcf (Tilbury T1A tank) +
26 0.35 Bcf (Base Plant tank) - 0.5 Bcf (minimum LNG required to be retained in Base Plant tank) =
27 1.3 Bcf. This is before recognizing the fact that some of that usable LNG storage capacity can
28 reasonably be expected to have been used by RS 46 LNG customers, many of whom take service
29 on a firm basis.

30