



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

CONFIDENTIAL

November 10, 2021

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, B.C.
V6Z 2N3

Attention: Mr. Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

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 British Columbia Utilities Commission (BCUC) CONFIDENTIAL Information Request (IR) No. 2

On December 29, 2021, FEI filed the Application referenced above. In accordance with the regulatory timetable established in Order G-185-21 for the review of the Application, FEI respectfully submits the attached response to BCUC Confidential IR No. 2.

Treatment of Confidential Material

Due to the sensitive and confidential nature of some of the information in the Application, FEI is filing some responses to information requests 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-15-19. FEI's treatment of security-sensitive and commercially-sensitive information in these responses is consistent with BCUC Order G-161-21 and the Revised Confidential Application (Exhibit B-1-3). All of that information will be available to interveners who have previously signed and provided the BCUC Confidentiality Declaration and Undertaking form (Undertaking) and the revised non-disclosure agreement (NDA). In the case of interveners who have only provided the signed Undertaking, they will receive all commercially-sensitive information only.

While some parties submitted information requests on a confidential basis, in order to maximize the amount of information on the public record, FEI has reviewed the preambles, questions, responses, and related attachments and in instances where confidential

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Tilbury LNG Expansion Project CPCN – FEI Response to BCUC CONFIDENTIAL IR1

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information is not disclosed, FEI has filed the information publicly, redacting all confidential information (both commercially-sensitive and security-sensitive). In cases where the information requests were submitted publicly, if the responses disclose security-sensitive or commercially-sensitive confidential information, FEI has redacted those portions for the public record.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments



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
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6 **A. PROJECT NEED**

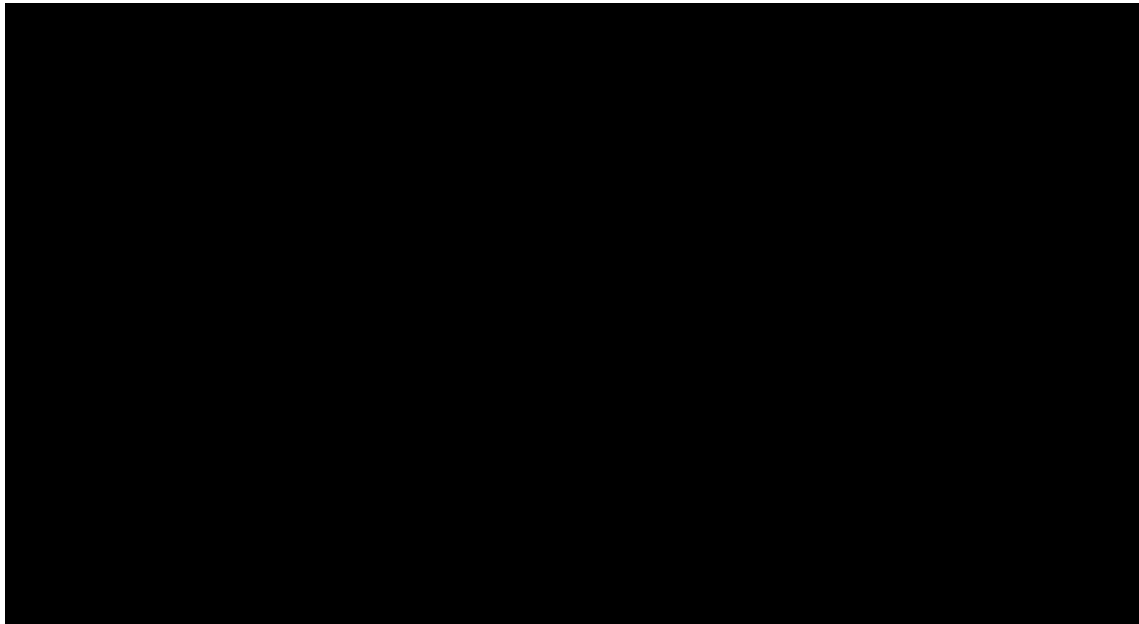
7 **16.0 Reference: PROJECT NEED**

8 **Exhibit B-16, Confidential BCUC IR 1.1, 1.2**

9 **T-South System Accessibility**

10 In response to Confidential British Columbia Utilities Commission (BCUC) Information
 11 Request (IR) 1.1, FortisBC (FEI) stated:

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27 In response to Confidential BCUC IR 1.2, FEI stated:

28 FEI does not have access to the information required to describe the accessibility
 29 characteristics of the entire T-South system in detail. However, based on publicly
 30 available information from the Transportation Safety Board of Canada Pipeline
 31 Transportation Safety Investigation Report P18H0088, the T-South system
 32 consists of a nominal pipe size (NPS) 36 L2 natural gas pipeline and a NPS 30 L1
 33 natural gas pipeline that extends 917 km from Compressor Station 2 to the
 34 Huntingdon Meter Station in Huntingdon, BC, as shown in Figure 1 below. The T-
 35 South system spans almost the entire length of the Province of BC in a north to

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1 south fashion, passing through mountainous and forested areas that are sparsely
2 populated...

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6 16.1 Please explain whether FEI has sought information from Westcoast regarding the
7 accessibility characteristics of the T-South system in order to better understand
8 the likelihood of a pipeline rupture occurring in a relatively accessible or
9 inaccessible location. If not, why not.

10 16.1.1 Please discuss whether FEI considers this information is relevant for
11 understanding the need for the Tilbury LNG Storage Expansion (TLSE)
12 Project.
13

14 **Response:**

15 FEI has not directly sought information from Westcoast regarding the accessibility characteristics
16 of the T-South system. However, for many years, FEI has operated approximately 40
17 transmission pipeline taps which interconnect with the Westcoast system at various locations
18 along its length, spanning the province from Fort Nelson to Abbotsford. As such, FEI is well
19 familiar with the topography of the province, the location and configuration of Westcoast's T-South
20 system, and the associated response time and access challenges.

21 As discussed in the response to BCUC IR2 78.1, the regasification constraint at Tilbury (150
22 MMcf/day) means that the Lower Mainland system would currently experience widespread load
23 loss on the very first day of a T-South no-flow event that occurs during winter. Regardless of the
24 location of a rupture, there is a very high likelihood that a significant integrity event on T-South
25 could not be resolved fast enough to avoid FEI having to pre-emptively begin shutting down the
26 Lower Mainland system.

27 The duration of the potential no-flow event only becomes a factor once it is hypothetically
28 assumed the existing 150 MMcf/day regasification constraint at the Tilbury Base Plant facility is
29 rectified. Increasing the size of the regasification capacity on its own without addressing the size
30 of the Base Plant tank is not practical, and there would currently be insufficient volume to sustain
31 the necessary rate of regasification / send out to support Lower Mainland load for any appreciable
32 length of time (please also refer to the response to BCUC IR2 78.1). That is, the question of the
33 duration of an outage on the T-South system can be conceptualized as more an issue about how
34 large a new tank (with sufficient associated regasification capacity) needs to be in order to bridge
35 a no-flow event without significant loss of load.

36 The factors that can influence the length of time of a no-flow or reduced flow event include, but
37 are far broader than, the relative accessibility of a failure site. As provided in the responses to
38 BCUC IR1 4.3 and BCUC IR2 72.1, and JANA's responses to BCUC IR2 68.8 and 68.10, an



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1 extended period of reduced pipeline capacity can result from other matters such as third-party
2 investigations, regulatory directives, and engineering assessments – irrespective of a failure
3 location and its access characteristics.

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7 16.2 Please further explain the implications of a pipeline rupture incident occurring a
8 long distance from the primary locations of Enbridge’s technical resources and gas
9 control centre, with respect to the response time during such an incident.

10

11 **Response:**

12 FEI expects that the distance from the primary locations of an operator’s technical resources
13 would impact an operator’s response time. For example, the total time required to perform any
14 required in-person assessments by technical resources would be extended by the time required
15 to plan and undertake travel to the incident site.

16



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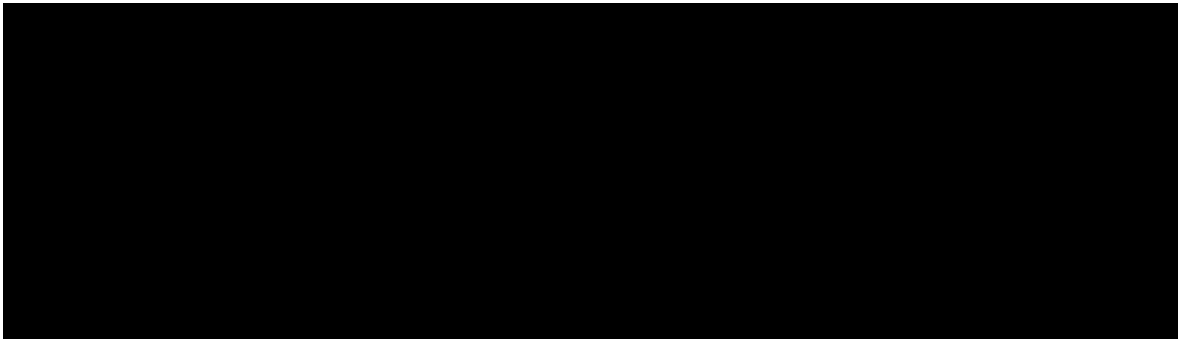
1 **B. PROJECT DESCRIPTION**

2 **17.0 Reference: PROJECT DESCRIPTION**

3 **Exhibit B-16-2, BCUC IR 2.2 – Attachment 2.2, [REDACTED]**
4 **[REDACTED] BCUC IR**
5 **8.2**

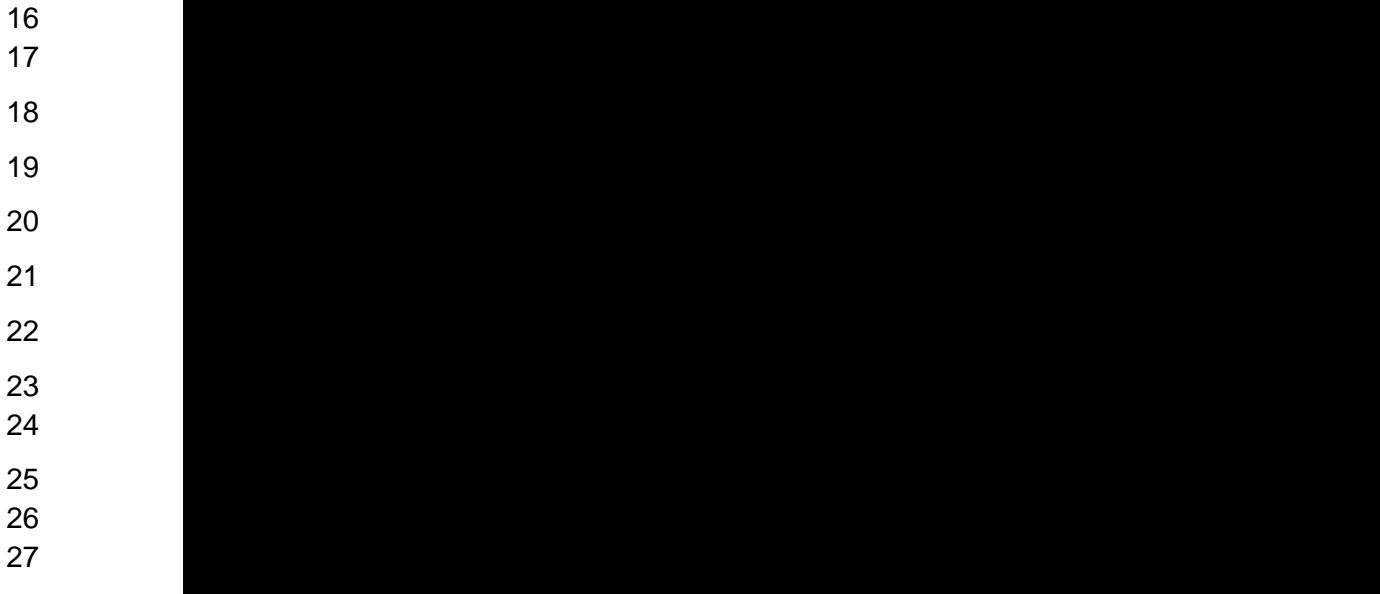
6 **Equipment Sizing**

7 In response to BCUC IR 8.2, FEI submitted a table which provides a breakdown of the
8 design components that cannot be retrofitted later and that have been included within the
9 TLSE Project design to realize the future benefits of the Liquefaction Facility. This table is
10 reproduced below:



11 In response to BCUC IR 2.2, FEI provided piping and instrumentation diagrams (PID) for
12 the TLSE Project, including [REDACTED]
13 [REDACTED]

14 [REDACTED]

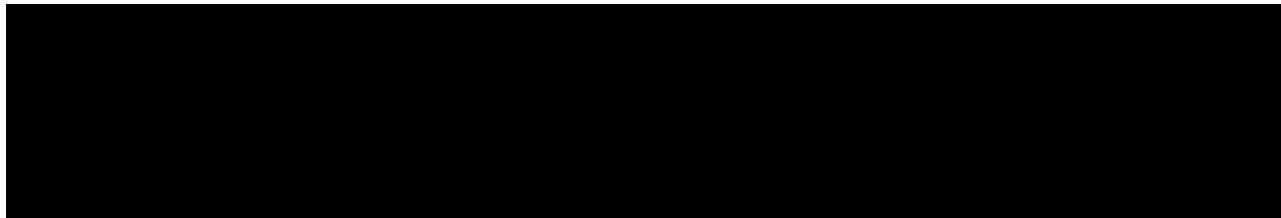
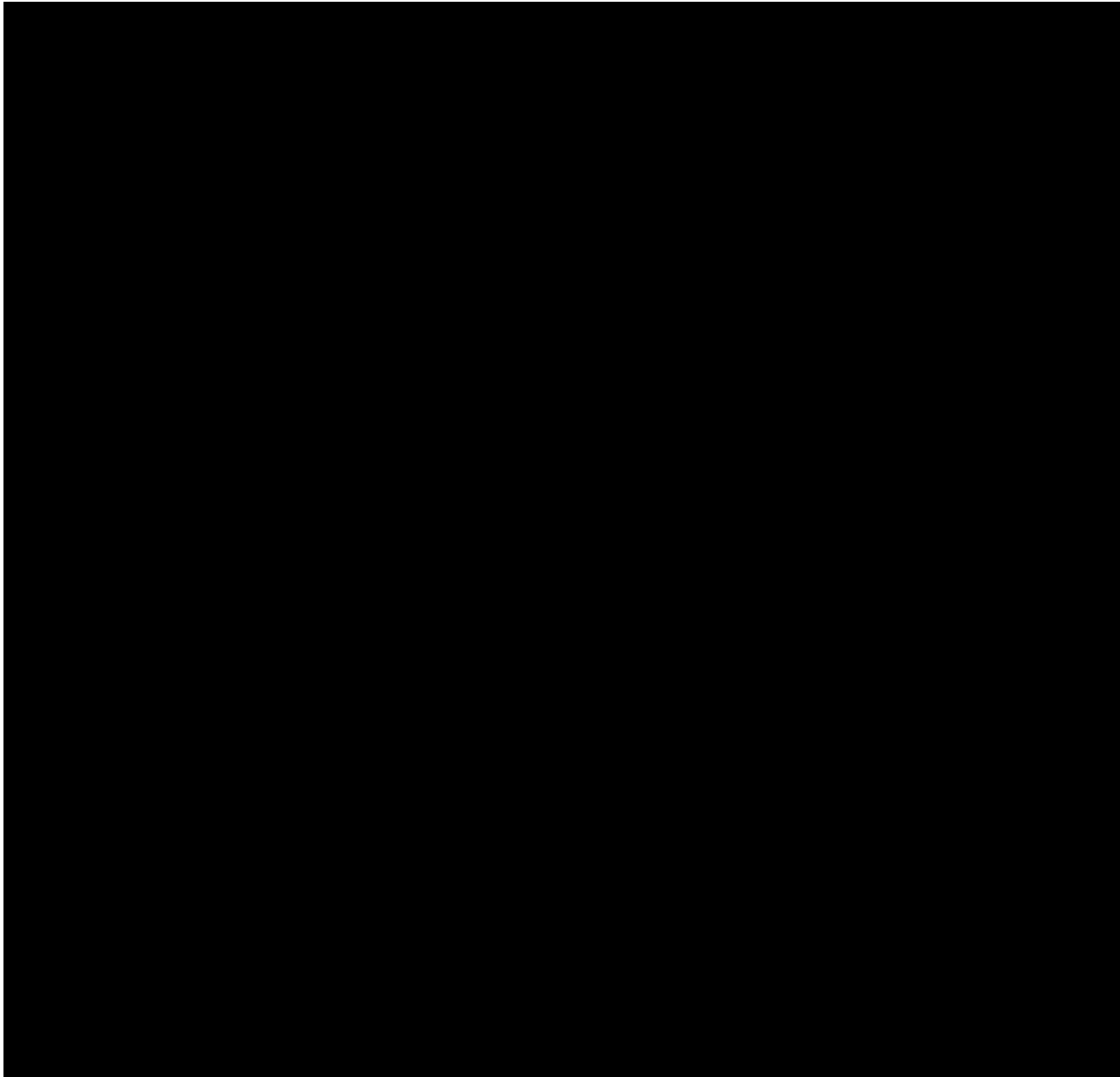


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1 17.2 Please confirm that all design components that cannot be retrofitted later have
2 been included in the table reproduced above, as well as the incremental costs to
3 include these design components in the TLSE Project.

4
5 **Response:**

6 Confirmed. FEI has provided its best estimate at this stage of the Project for all of these
7 incremental costs.

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1 **18.0 Reference: PROJECT DESCRIPTION**
2 **Exhibit B-16-2, BCUC IR 9.3, Attachment 9.3, pp. 6, 16**
3 **Geotechnical Design Criteria for LNG Projects at Tilbury Site**

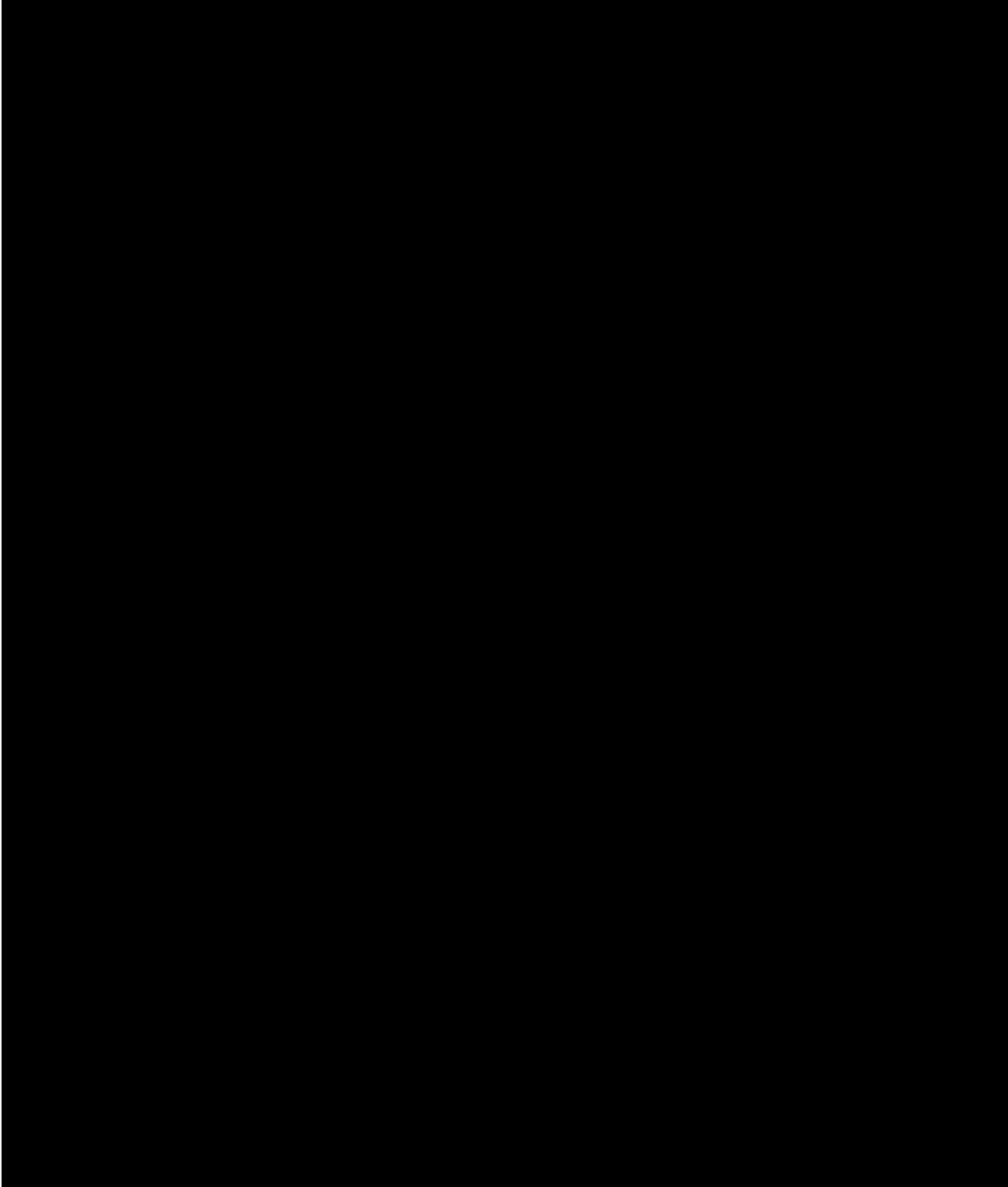


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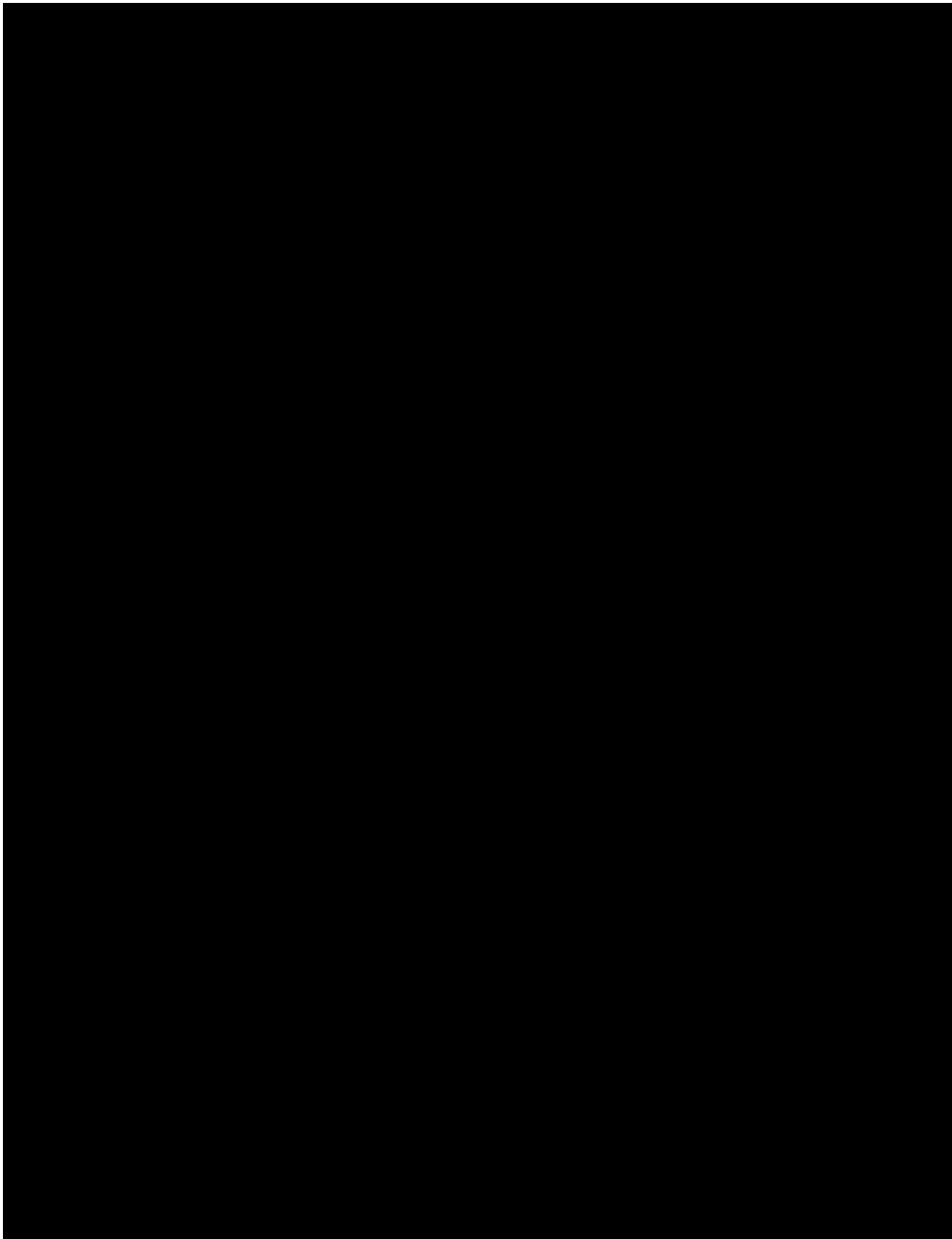
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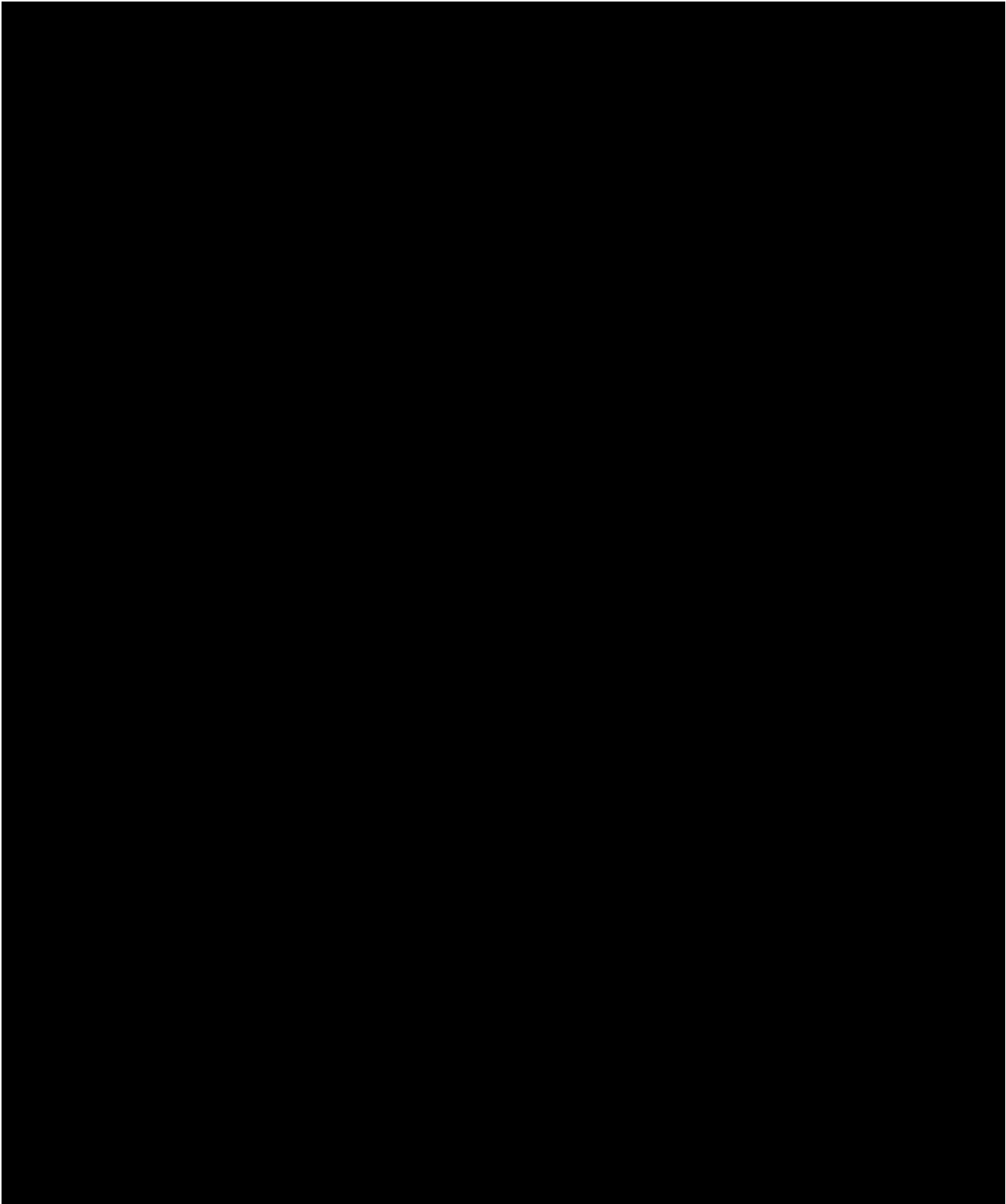




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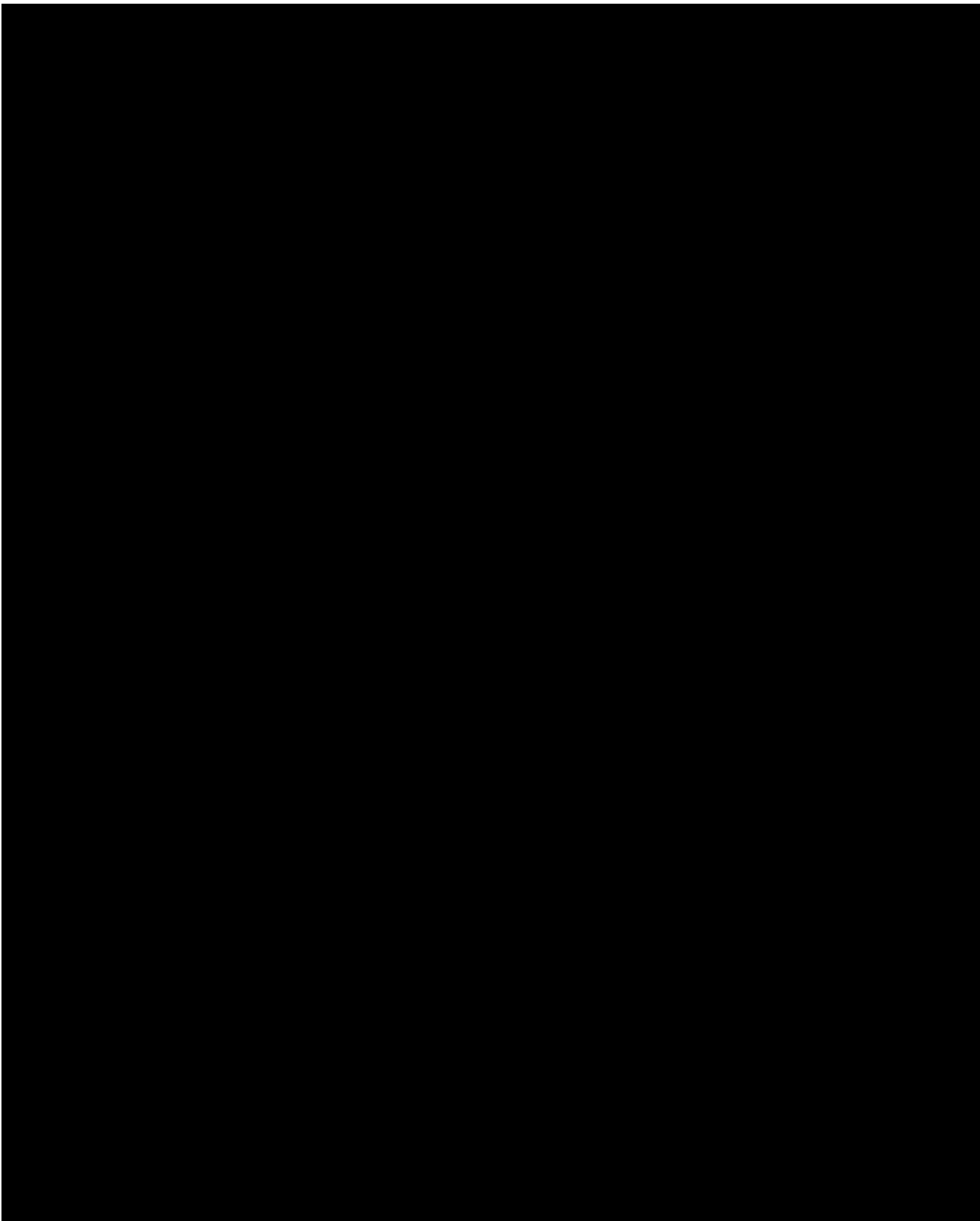
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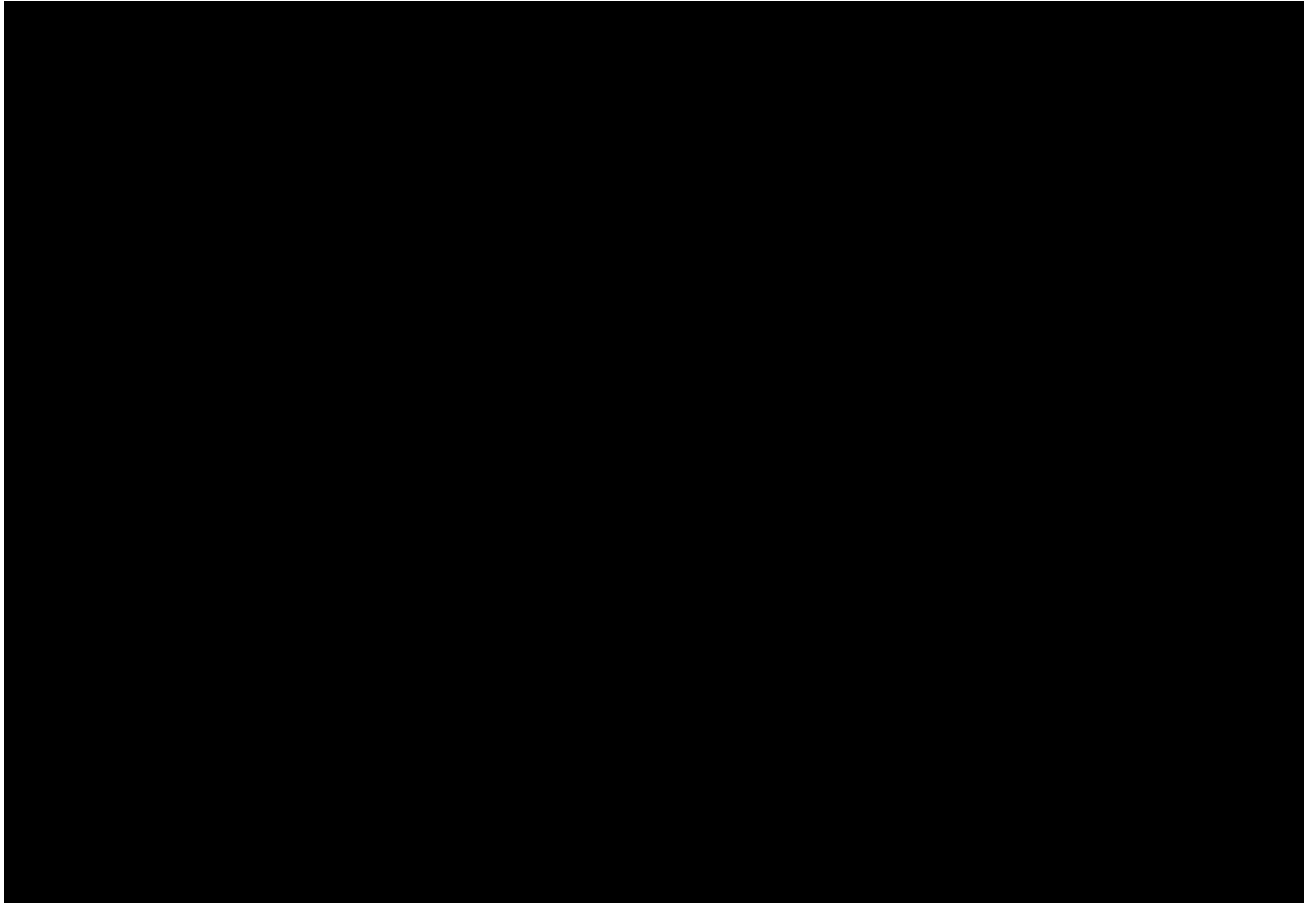
1 **19.0 Reference: PROJECT DESCRIPTION**

2 **Exhibit B-16-2, BCUC Confidential IR 11.1**

3 **Preliminary QRA**

4 In response to BCUC Confidential IR 11.1, FEI stated:

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1 **C. FINANCIAL ANALYSIS**

2 **20.0 Reference: Partners in Performance (PiP) Estimate of O&M Costs**
3 **Exhibit B-1-1 (Confidential Application), Appendix N, p. 2**
4 **O&M Cost Estimate**

5 In Appendix N, the report provided by PiP states on page 2: “This estimate is based on a
6 steady-state year of operation (typically years 5-20).”

7 20.1 Considering that the proposed 3 Bcf LNG tank is expected to have a 60-year
8 service life, please explain why a steady-state of operation is 15 years (i.e. from
9 years 5-20) and not longer.

10

11 **Response:**

12 FEI notes the statement referenced in the preamble is highlighting that PiP assumes the new 3
13 Bcf LNG tank is under the steady-state operation for the associated O&M cost estimate. The
14 estimate does not account for variation in O&M costs that may occur during the ramp-up or start-
15 up period (i.e., the first five years of new facility operation).

16 Further, the reference of 5 to 20 years made by PiP does not mean the new LNG tank can operate
17 for a maximum of 20 years, nor are they suggesting it cannot operate under a steady-state after
18 20 years. There is no evidence to suggest the operation cannot be steady-state after 20 years;
19 as such, for the purpose of the financial analysis, FEI has assumed the new LNG tank will continue
20 to be under steady-state operation beyond the 20 years, with O&M cost estimates escalated
21 annually by 2 percent inflation (as discussed in Section 6.3 of the Application).

22



1 **21.0 Reference: Financial Schedules**
 2 **Exhibit B-1-1, Appendix M-1, Schedule 9**
 3 **Deferred Charges**

4 Schedule 9 in Appendix M-1 to the Confidential Application shows the deficiency and
 5 surplus balances for deferred charges.

Line	Particulars	Reference	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
18														
19	Deferred Charge - Negative Salvage Provision/ Cost (Deferral account as approved by BCUC)													
20	Opening Balance	Previous Year, Line 20	-	16,203	15,620	11,723	7,824	3,922	10	(3,887)	(7,796)	(11,706)	(15,620)	(19,535)
21	Gross Additions		-	-	-	-	-	-	-	-	-	-	-	-
22	Tax	Line 21 * Tax Rate	-	-	-	-	-	-	-	-	-	-	-	-
23	AFUDC	(Lines 20 + (Line 23 + Line 22)/2) * AT-WACC	-	-	-	-	-	-	-	-	-	-	-	-
24	Net Additions	Sum of Lines 21 through 23	-	-	-	-	-	-	-	-	-	-	-	-
25	Annual Amortization Expense		(736)	(773)	(3,897)	(3,899)	(3,901)	(3,904)	(3,906)	(3,908)	(3,911)	(3,913)	(3,916)	(3,918)
26	Closing Balance	Lines 20 + 24 + 25	(736)	15,620	11,723	7,824	3,922	10	(3,887)	(7,796)	(11,706)	(15,620)	(19,535)	(23,454)
27														
28	Summary - Deferred Charge - Non Rate Base													
29	Opening Balance	Previous Year, Line 36	-	-	-	-	-	-	-	-	-	-	-	-
30	Opening Balance, Adjustment	Opening balance transfer to rate base	-	-	-	-	-	-	-	-	-	-	-	-
31	Gross Additions		-	-	-	-	-	-	-	-	-	-	-	-
32	Tax		-	-	-	-	-	-	-	-	-	-	-	-
33	AFUDC		-	-	-	-	-	-	-	-	-	-	-	-
34	Net Additions	Sum of Lines 31 through 33	-	-	-	-	-	-	-	-	-	-	-	-
35	Amortization Expense		-	-	-	-	-	-	-	-	-	-	-	-
36	Closing Balance	Lines 29 + 30 + 34 + 35	-	-	-	-	-	-	-	-	-	-	-	-
37														
38	Summary - Deferred Charge - Rate Base													
39	Opening Balance	Previous Year, Line 45	838	17,231	16,438	12,561	8,662	4,761	857	(3,049)	(6,957)	(10,868)	(14,781)	(18,697)
40	Opening Balance, Adjustment	Opening balance transfer from non-rate base	-	-	-	-	-	-	-	-	-	-	-	-
41	Gross Additions		-	-	-	-	-	-	-	-	-	-	-	-
42	Tax		-	-	-	-	-	-	-	-	-	-	-	-
43	Net Additions	Sum of Lines 40 through 42	-	-	-	-	-	-	-	-	-	-	-	-
44	Amortization Expense		(736)	(773)	(3,897)	(3,899)	(3,901)	(3,904)	(3,906)	(3,908)	(3,911)	(3,913)	(3,916)	(3,918)
45	Closing Balance	Lines 39 + 43 + 44	102	16,458	12,561	8,662	4,761	857	(3,049)	(6,957)	(10,868)	(14,781)	(18,697)	(22,615)
46														
47	Deferred Charge, Mid-Year	(Line 39 + Line 40 + Line 45) / 2	470	16,844	14,550	10,611	6,711	2,809	(1,096)	(5,001)	(8,913)	(12,825)	(16,739)	(20,654)
48														

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 8 21.1 Please confirm, or explain otherwise, that the increase in opening balances
 9 between year 2025 to year 2026 (Line 20 and Line 39) is due to the demolition of
 10 the Tilbury Base Plant occurring in 2025.
 11

12 **Response:**

13 While responding to this IR, FEI discovered an Excel formula error on Schedule 9 of Confidential
 14 Appendix M-1. The 2025 opening balance on Line 39 should have been zero instead of \$0.838
 15 million. The error is relatively minor with a revised levelized delivery rate impact over the 67-year
 16 analysis period estimated at 6.66 percent instead of 6.67 percent. The estimated delivery rate
 17 impact in 2027, when all assets enter FEI's rate base, remains at 9.07 percent when rounded to
 18 two decimal places. Please refer to Confidential Attachment 21.1 for the revised Schedule 9 of
 19 Confidential Appendix M-1. Please also refer to the reproduced screenshot below as referenced
 20 in the preamble, but reflecting the revised Schedule 9 of Confidential Appendix M-1.



Line Particulars	Reference	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
FortisBC Energy Inc. Tilbury Residency 3.0 BCF <i>December 2020</i> Tilbury Residency 3.0 BCF: Deferred Charges & Deficiency / Surplus / Tra Schedule 9 <i>(\$000s), unless otherwise stated</i>													
18													
19	Deferred Charge - Negative Salvage Provision Cost (Deferral account												
20	Opening Balance Previous Year, Line 26	-	16,393	15,620	11,723	7,824	3,922	19	(3,667)	(7,796)	(11,706)	(15,620)	(19,535)
21	Gross Additions	-	-	-	-	-	-	-	-	-	-	-	-
22	Tax Line 21 x Tax Rate	-	-	-	-	-	-	-	-	-	-	-	-
23	AFUDC (Lines 20 + (Line 21 + Line 22) x AT-WACC	-	-	-	-	-	-	-	-	-	-	-	-
24	Net Additions Sum of Lines 21 through 23	-	-	-	-	-	-	-	-	-	-	-	-
25	Annual Amortization Expense	(736)	(773)	(3,897)	(3,899)	(3,901)	(3,904)	(3,906)	(3,908)	(3,911)	(3,913)	(3,916)	(3,918)
26	Closing Balance Lines 20 + 24 + 25	(736)	15,620	11,723	7,824	3,922	19	(3,687)	(7,796)	(11,706)	(15,620)	(19,535)	(23,454)
27													
28	Summary - Deferred Charge - Non Rate Base												
29	Opening Balance Previous Year, Line 36	-	-	-	-	-	-	-	-	-	-	-	-
30	Opening Balance, Adjustment Opening balance transfer to rate base	-	-	-	-	-	-	-	-	-	-	-	-
31	Gross Additions	-	-	-	-	-	-	-	-	-	-	-	-
32	Tax	-	-	-	-	-	-	-	-	-	-	-	-
33	AFUDC	-	-	-	-	-	-	-	-	-	-	-	-
34	Net Additions Sum of Lines 31 through 33	-	-	-	-	-	-	-	-	-	-	-	-
35	Amortization Expense	-	-	-	-	-	-	-	-	-	-	-	-
36	Closing Balance Lines 29 + 30 + 34 + + 35	-	-	-	-	-	-	-	-	-	-	-	-
37													
38	Summary - Deferred Charge - Rate Base												
39	Opening Balance Previous Year, Line 45	-	16,393	15,620	11,723	7,824	3,922	19	(3,687)	(7,796)	(11,706)	(15,620)	(19,535)
40	Opening Balance, Adjustment Opening balance transfer from non-rate base	-	-	-	-	-	-	-	-	-	-	-	-
41	Gross Additions	-	-	-	-	-	-	-	-	-	-	-	-
42	Tax	-	-	-	-	-	-	-	-	-	-	-	-
43	Net Additions Sum of Lines 40 through 42	-	-	-	-	-	-	-	-	-	-	-	-
44	Amortization Expense	(736)	(773)	(3,897)	(3,899)	(3,901)	(3,904)	(3,906)	(3,908)	(3,911)	(3,913)	(3,916)	(3,918)
45	Closing Balance Lines 39 + 43 + 44	(736)	15,620	11,723	7,824	3,922	19	(3,687)	(7,796)	(11,706)	(15,620)	(19,535)	(23,454)
46													
47	Deferred Charge, Mid-Year (Line 39 + Line 40 + Line 45) / 2	(368)	16,006	13,671	9,773	5,873	1,971	(1,534)	(5,841)	(9,751)	(13,663)	(17,577)	(21,494)
48													

1

2 For clarity, Lines 20 to 26 of Schedule 9 show the continuity of the Negative Salvage deferral

3 account as approved by Order G-44-12, while Lines 39 to 45 show the aggregate continuity of all

4 rate base deferral accounts impacted by the proposed TLSE Project which includes the proposed

5 Application and Preliminary Stage Development Costs deferral account (i.e., Lines 2 to 17 of

6 Schedule 9) and the aforementioned Negative Salvage deferral account. FEI notes, starting from

7 2025, Lines 20 to 26 and Lines 39 to 45 are the same under the revised Schedule 9 (as shown in

8 the screenshot above). This is because, as shown in the financial analysis, the Application and

9 Preliminary Stage Development Costs deferral account would be fully amortized at the end of

10 2024 and,² as such, the opening balance for 2025 on Line 39 is zero.

11 For the Negative Salvage deferral account, the 2026 opening balance of \$16.393 million shown

12 on Line 20 is the combination of the demolition costs of \$17.129 million in as-spent dollars as

13 shown in Table 6-2 of the Application (Line 6, Column 5) and the 2025 ending credit balance of

14 \$0.736 million (i.e., \$17.129 million - \$0.736 million = \$16.393 million). FEI notes, similar to capital

15 expenditures for CPCNs, the demolition costs are shown to enter the deferral account on January

16 1 as an opening balance adjustment³ following the completion of the demolition (i.e., the Base

17 Plant demolition is estimated to be complete in 2025 therefore it is shown as an opening balance

² The proposed amortization period is three years from 2022 to 2024. However, due to the timing of the regulatory process, FEI will not receive a BCUC Decision on the TLSE Project before the end of 2021. The proposed Application and Preliminary Stage Development Costs deferral account would then shift by one year with amortization starting on January 1, 2023.

³ FEI did not have a separate Opening Balance Adjustment line for its Negative Salvage Provision deferral account in its financial schedules; therefore, this amount was instead shown as an Opening Balance.

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1 adjustment to the deferral account in 2026). The \$0.736 million credit balance in 2025 is due to
2 the approved annual salvage provision for the ground improvement assets under Asset Account
3 44200 LNG Gas Structures & Improvements, and the assets for the regasification as well as the
4 auxiliary system under Asset Account 44841 LNG Send Out Equipment Tilbury. The currently
5 approved negative salvage provision rates for these two accounts are 0.68 percent and 0.28
6 percent, respectively, as per FEI's 2017 Depreciation Study approved as part of FEI's 2020-2024
7 MRP Decision⁴.

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11 21.2 Please explain why the deferral account balances (Line 20, Line 26, Line 39, and
12 Line 45) have negative values beginning in 2031.

13

14 **Response:**

15 Please refer to the response to BCUC Confidential IR2 21.1 for the revised Schedule 9 of
16 Confidential Appendix M-1.

17 FEI notes the Negative Salvage deferral account was directed by the BCUC as part of Order G-
18 44-12 which captures both the actual salvage costs (or removal/demolition costs) and the annual
19 net negative salvage provision. As such, the Negative Salvage deferral account shown in
20 Schedule 9 of Confidential Appendix M-1 captures the debit of salvage costs (i.e., the cost of
21 demolition as discussed in BCUC Confidential IR2 21.1) and the credit of the annual negative
22 salvage provision (shown as annual amortization expense of the deferral account on Lines 25
23 and 44). The annual negative salvage provision is calculated based on the opening balance of
24 the plant-in-service in each year and the approved negative salvage rate. Given there is no other
25 debit of salvage costs (or demolition costs) besides those in year 2025, the annual negative
26 salvage provision as a credit to the deferral account will eventually result in the balance of the
27 deferral account being in an overall credit position (i.e., negative value). This occurs in year 2031
28 for the purpose of the incremental financial analysis for the TLSE Project.

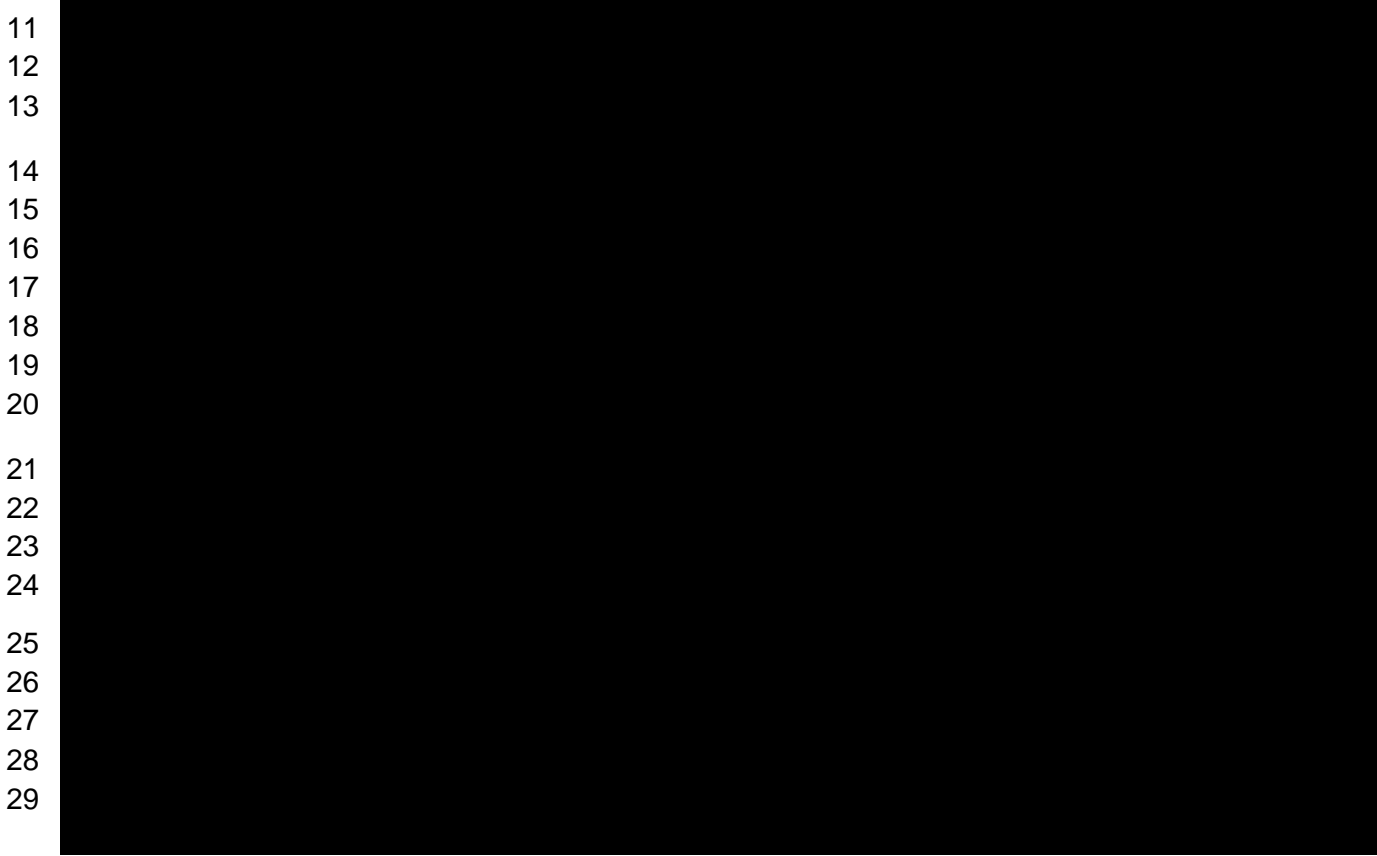
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⁴ Order G-165-20.



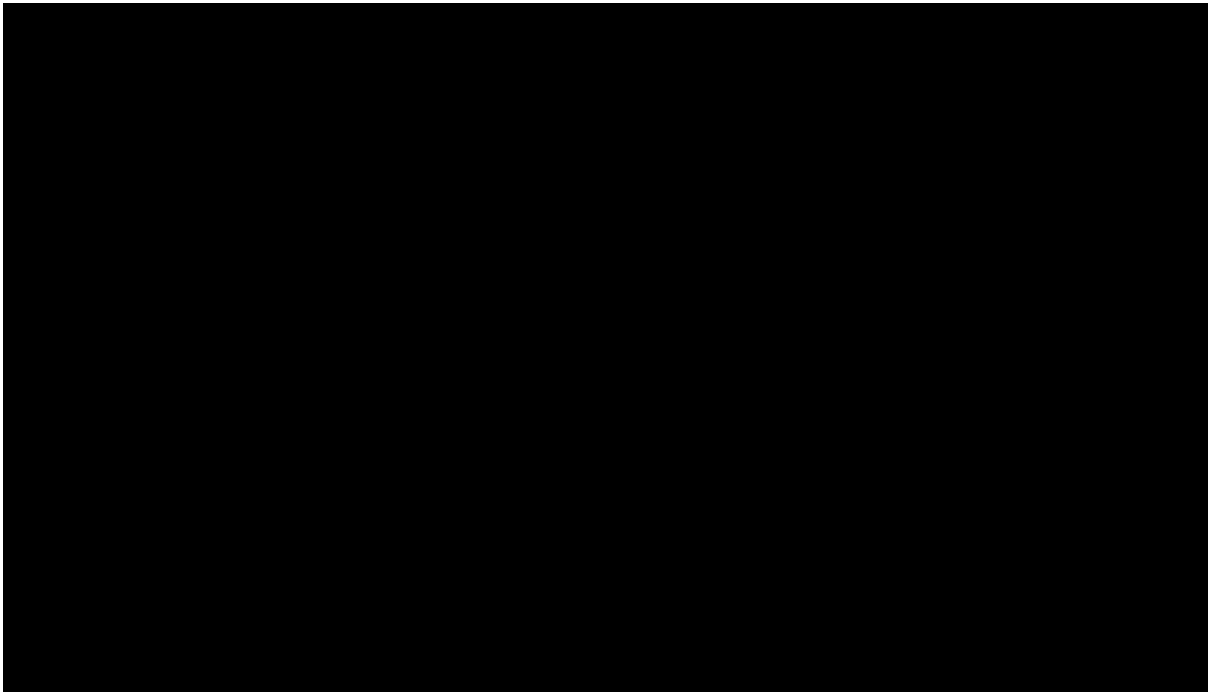
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1 **22.0 Reference: Escalation Costs**
2 **Exhibit B-1-1, Section 5.3.1.1, p. 125;**
3 **Exhibit B-1-1, Appendix K-3 – Validation Estimating Escalation**
4 **Report, p. 8; IHS Markit Research & Analysis Article; Terasen Gas**
5 **(Vancouver Island) Inc. - Mt. Hayes Liquefied Natural Gas Storage**
6 **Project CPCN Application and Terasen Gas Inc. Storage and**
7 **Delivery Services Agreement, Exhibit B-4-4, responses to BCOAPO**
8 **Information Request No. 1, pp. 16 – 17 (TGVI Mt. Hayes CPCN**
9 **Application Responses to BCOAPO)⁵**
10 **Commodity Price Impact**



⁵ https://www.bcuc.com/Documents/Proceedings/2007/DOC_16174_B-4-4_Resps_BCOAPO_IR-1.pdf.

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A recent article from IHS Markit Research & Analysis, *Commodity prices rise amid intensifying supply pressures in January*, posted on February 15, 2021 states⁶ :

The latest Price & Supply Monitor - a monthly report designed to track global commodity price pressures and supply shortages - saw higher prices across most of the major commodities in January.

22.2 Please discuss whether the higher prices in major commodities noted by IHS Markit in their monthly report in February 2021, continues to fall in the 'significant range' referenced in IR 3.1.

Response:

Confirmed, the figures in the February report fall within the significant range.

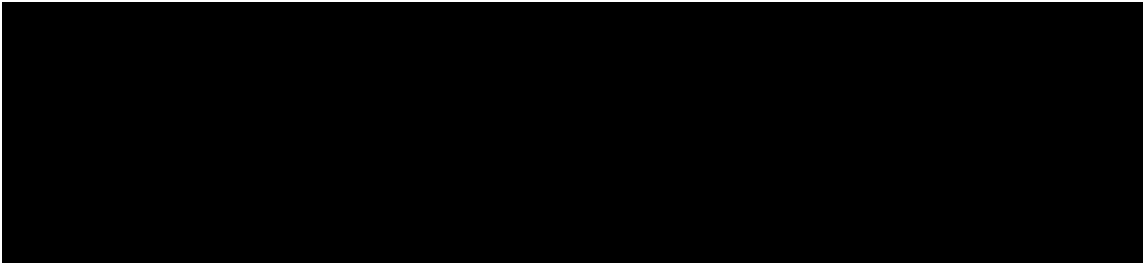
⁶ See IHS Markit PMI Research & Analysis, *retrieved from <https://ihsmarkit.com/research-analysis/commodity-prices-rise-amid-intensifying-supply-pressures-in-january.html>*.



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1 On page 125 of the Confidential Application, FEI states:

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8 On page 16 of the TGVI Mt. Hayes CPCN Application Responses to BCOAPO, FEI stated:

9 The 40% increase in costs of a 1.0 Bcf storage plant from 2004 to 2007

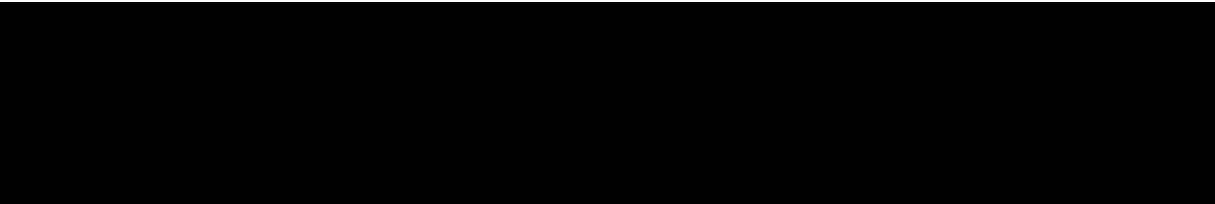
10 [...]

11 are attributed to significant increases and future cost uncertainty in the direct costs
12 of construction, including:

- 13
- the price of raw materials such as nickel, copper and steel

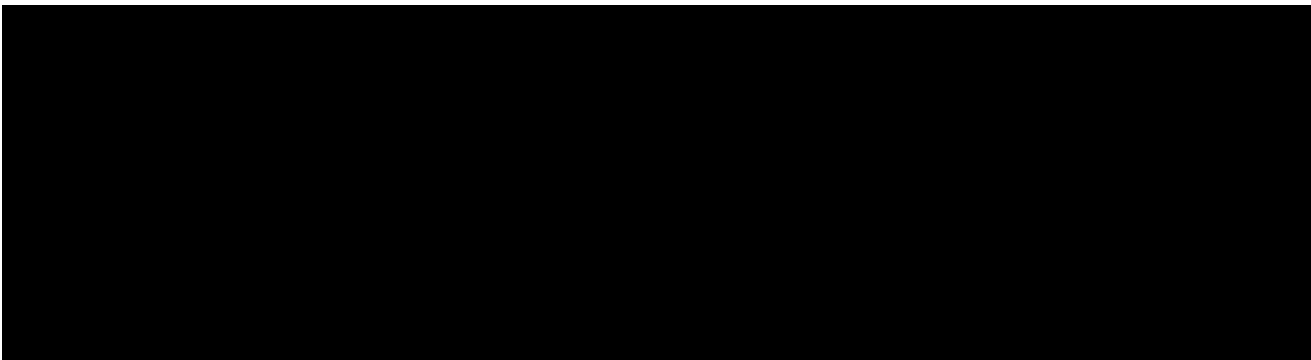
14 On page 17 of the TGVI Mt. Hayes CPCN Application Responses to BCOAPO, FEI
15 provided data showing that nickel and steel prices, significant components of LNG storage
16 tanks, had increased by 676 percent and 69 percent [from 2007 prices] over 2002 prices,
17 respectively.

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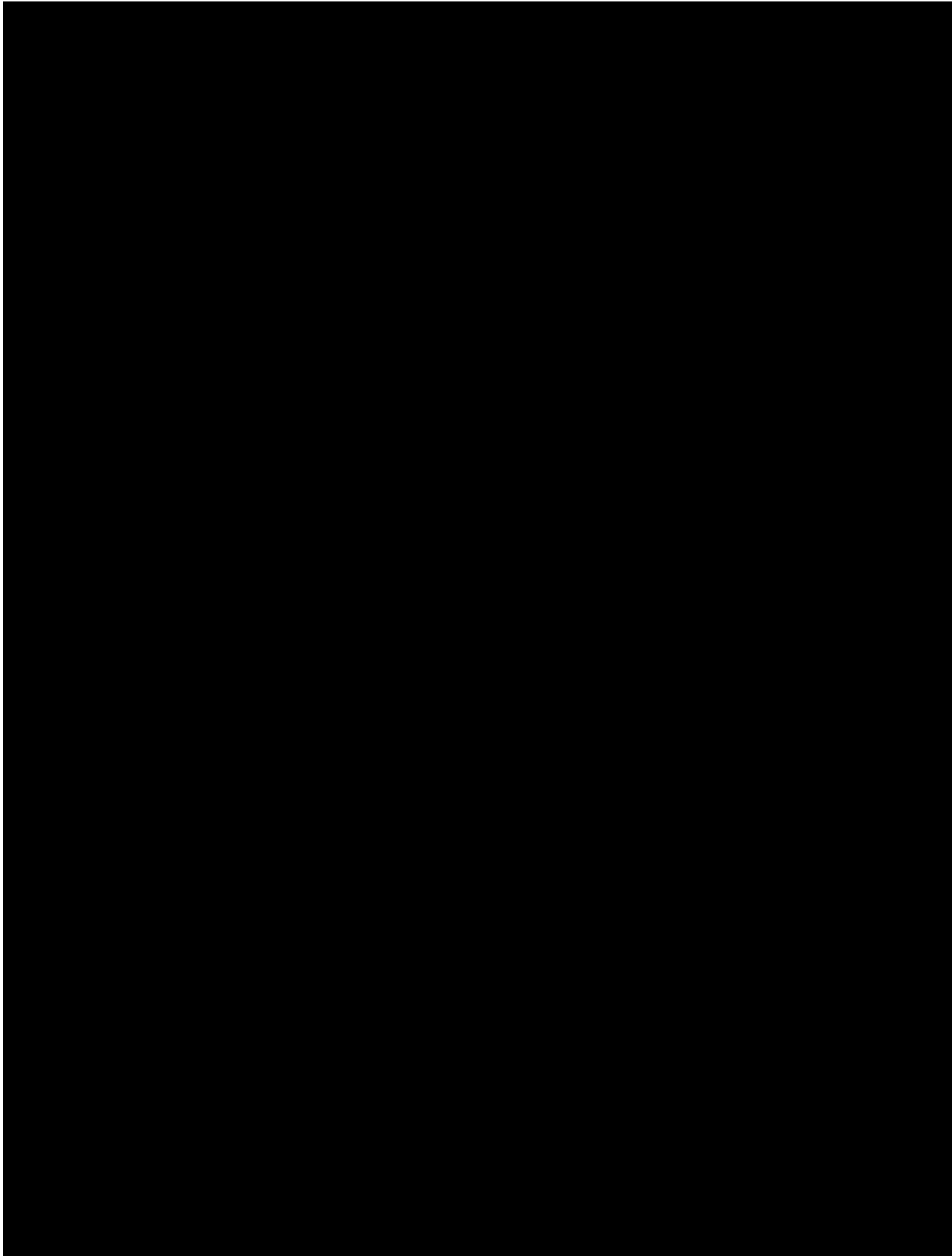
23 **Response:**

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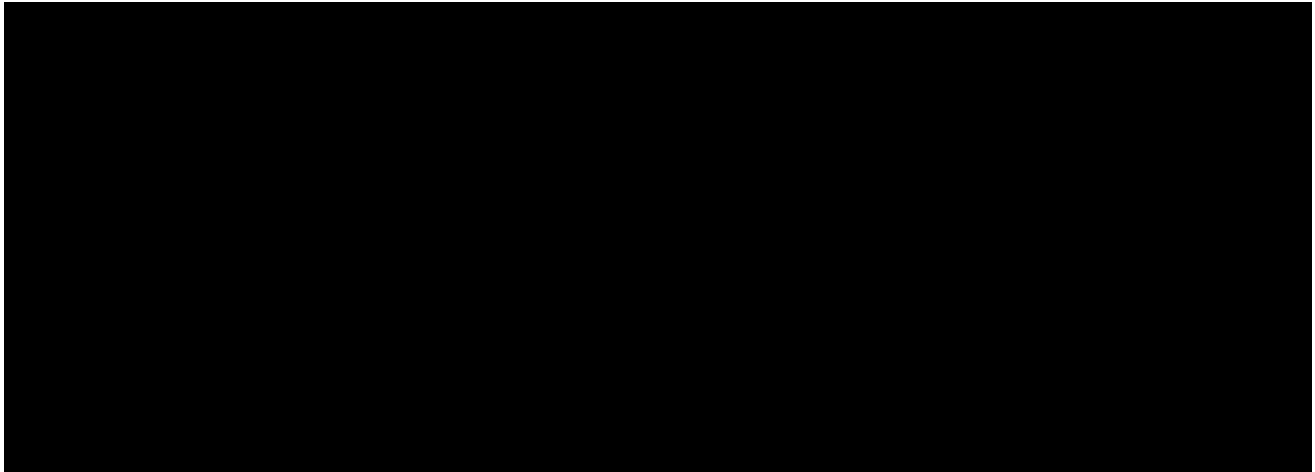
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Attachment 21.1

FILED CONFIDENTIALLY

