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June 15, 2022

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC
V6Z 2N3

Attention: Mr. Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

Re: FortisBC Energy Inc. (FEI) Transportation Service Report

FEI writes in compliance with the British Columbia Utilities Commission (BCUC) Decision and Order G-135-18 dated July 20, 2018, in the matter of FEI's 2016 Rate Design Application (2016 RDA Decision). In the 2016 RDA Decision, the BCUC directed FEI to file a written report with the BCUC on transportation service balancing by June 1, 2022 (Transportation Service Report).[1]

Subsequently, the BCUC issued its Decision and Order G-210-20 dated August 10, 2020 in the matter of a complaint filed by a marketer group directing that FEI address additional items the Transportation Service Report.[2]

On May 30, 2022, the BCUC issued a letter approving FEI's extension request to file the Transportation Service Report on June 15, 2022.

Attached is FEI's Transportation Service Report. If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

[1] 2016 RDA Decision, p. 81 and Directive 25 in the Summary of Directives.
[2] Decision and Order G-210-20, p. 12 and Directive 2 of Order G-210-20.

FORTISBC ENERGY INC.

Transportation Service Report

Compliance Filing in Accordance with BCUC Order G-135-18 and Order G-210-20

June 15, 2022

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1. INTRODUCTION

FortisBC Energy Inc. (FEI) files this Transportation Service Report (Report) in accordance with British Columbia Utilities Commission (BCUC) Decisions and Orders G-135-18[1] and G-210-20.[2] The purpose of the Report is to review and assess the performance of the Transportation Service Model under the new business rules which were approved in Order G-135-18. FEI conducted engagement with stakeholders including all shipper agents (also referred to as gas marketers or marketers)[3] as discussed in the Report. FEI's analysis and assessment of the Transportation Service Model shows that shipper agents are meeting the demand requirements of their customers under the daily balancing provisions and within the 10 percent tolerance. Further, shipper agents are managing inventory within reasonable levels and are not incurring significant charges under the new rules. Based on these results, FEI believes the Transportation Service Model is working well and as intended under the new business rules. As a result, FEI has no substantive changes to recommend at this time.

1.1 *BACKGROUND*

In the years leading up to 2016, FEI conducted a comprehensive rate design process culminating in the submission its 2016 Rate Design Application (2016 RDA). On July 20, 2018, the BCUC issued its Decision and Order G-135-18 (2016 RDA Decision), approving (among other things) various changes to the Transportation Service Model, including new and updated customer-balancing tariff terms, conditions and charges (New Rules). The New Rules included the elimination of monthly balancing provisions, implementation of daily balancing for all transportation service customers, a reduction of the daily balancing tolerance from 20 percent to 10 percent, and a new balancing charge of $0.25 per gigajoule (GJ) for balancing within the 10 to 20 percent range The New Rules were implemented in the Lower Mainland (including Vancouver Island) and Interior regions effective November 1, 2018, and in the Columbia region (including East Kootenay) effective November 1, 2019.

In the 2016 RDA Decision, the Panel directed FEI to file a written Report with the BCUC by June 1, 2022, later extended to June 15, 2022[4], assessing the impact of the changes to the New Rules. FEI was encouraged to engage in a stakeholder review in the preparation of the Report.

On August 10, 2020, the BCUC issued Decision and Order G-210-20 (BCGMC Complaint Decision) in the matter of a complaint filed by a marketer group including Cascadia Energy Ltd., Direct Energy Marketing Ltd. and Access Gas Services Inc. (collectively BCGMC) which directed

[1] In the Matter of FEI's 2016 Rate Design Application.
[2] In the Matter of a Complaint filed by Cascadia Energy Ltd., Direct Energy Marketing Ltd. and Access Gas Services Inc. (collectively BCGMC).
[3] The term "gas marketer(s)" typically refers to gas retailers selling gas to residential and commercial sales customers under the FEI Customer Choice program. While also commonly referred to as "marketer(s)", agents of customer groups under the transportation service are generally referred to as a "shipper agent(s)".
[4] On May 27, 2022, FEI applied for an extension request to file the report by June 15, 2022, which was approved by the BCUC by letter on May 30, 2022.

FEI to engage in a stakeholder review with all shipper agents addressing certain topics and to include the results of that review in the Report.

The following provides a summary of the reporting requirements directed in BCUC Orders G-135-18 and G-210-20 (BCUC Directives).

The 2016 RDA Decision (page 81 and Directive 25 in the Summary of Directives) set out the following requirements for the Report:

> The Panel directs FEI to file a written report with BCUC on transportation service balancing by June 1, 2022. The report is to include the following:
>
> - Impact of new balancing rules on the use of core resources including both changes to variable costs of balancing the system to accommodate transportation service and changes to fixed costs arising from a need to contract midstream resources differently;
> - Effectiveness of imbalance return as a tool for Shippers/Shipper Agents to manage excess inventory including discussion of any modifications made to the allocation methodology in response to changes in demand for imbalance return after the balancing rule changes are implemented;
> - Whether there should be further tightening of tolerances for under-supply;
> - Whether it is necessary to implement tolerances and associated charges for over-supply; and
> - Whether the balancing charges appropriately recover the costs of providing balancing to transportation service customers and provide sufficient incentive to transportation service customers to balance their supply and demand.

The BCGMC Complaint Decision (page 12) and Directive 2 of Order G-210-20 directed FEI to include the following additional items in the Report:

> Prior to filing its transportation service balancing written report with the BCUC by June 1, 2022, as directed by BCUC Order G-135-18, FEI is directed to engage in stakeholder review with all shipper agents and include results of that review in the report, to be filed. FEI is directed to include the following topics in its stakeholder review:
>
> a. Nature, timing and adequacy of information provided to shipper agents to manage gas supply resources;
> b. Administration of inter-customer group balancing and transparency of inter-customer group balancing rules; and
> c. FEI's criteria for curtailment of inventory returns to shipper agents.

FEI addresses the BCUC Directives in Section 5 of this Report.

In order to effectively address the BCUC Directives, FEI engaged an industry expert, Atrium Economics, LLC. (Atrium Economics), to prepare a report to evaluate how the Transportation Service Model has been performing under the New Rules (Atrium Economics Report). The Atrium Economics Report is attached in Appendix A to this Report. Atrium Economics are experts in the energy industry and assisted FEI during the 2016 RDA proceedings and provided evidence and support for the proposed changes.[5] FEI have engaged with Atrium Economics to help with the assessment of the New Rules in preparation for this Report.

1.2 *ORGANIZATION OF THE REPORT*

This Report is organized as follows:

- Section 2 – provides a summary of the conclusions in the Report and the stakeholder engagement process that was undertaken in the development of the Report;
- Section 3 – describes the background and history of the Transportation Service Model including the role of shipper agents;
- Section 4 – discusses the stakeholder engagement process FEI undertook in preparation of this Report;
- Section 5 – reviews each of the BCUC's Directives and provides a discussion and analysis supporting FEI's conclusions;
- Section 6 – includes discussion of additional requests made by shipper agents during the stakeholder sessions; and
- Section 7 – provides a summary of FEI's recommended changes.

[5] The primary consultants that worked with FEI during the 2016 RDA process were affiliated at the time with Black & Veatch and have since formed Atrium Economics LLC.

2. REPORT SUMMARY

The 2016 RDA Decision approved New Rules for the Transportation Service Model that were implemented November 1, 2018 and November 1, 2019.[6] The New Rules included exclusively daily balancing and a tighter tolerance of 10 percent, which represented the first material changes to the Transportation Service Model since 1993 and moved the Transportation Service Model closer to an industry standard approach.

Although the New Rules may require additional effort from some of the transportation shipper agents, the Transportation Service Model continues to work well and has improved. The evidence provided in this Report shows that the New Rules are operating as intended by incenting shipper agents to appropriately manage their supply and demand requirements daily on FEI's system on behalf of their customers. FEI's analysis shows that shipper agents are able to balance the gas supply and demands of their customers on a daily basis within the tighter tolerance of 10 percent. The relatively low levels of balancing charges being incurred by shipper agents and the reasonable inventory levels maintained on FEI's system since implementation of the New Rules demonstrate that shipper agents are able to manage their businesses under the New Rules. FEI also notes that shipper agents continue to actively participate in the Transportation Service Model[7] representing their customers under the New Rules. As shipper agents have demonstrated their ability to manage under the New Rules while also meeting the requirements of their customers, FEI concludes that the New Rules are working as intended.

FEI makes the following conclusions in this Report, which are discussed in more detail in the sections that follow:

- The New Rules are working as intended;
- The New Rules are providing the appropriate incentive for shipper agents to proactively plan and take necessary actions to better manage the supply and demand balance for their customers;
- Shipper agents have demonstrated they can manage under the New Rules;
- The Transportation Service Model has improved under the New Rules by bringing inventories to more reasonable levels;
- The New Rules bring balancing expectations more in line with industry standards.

In the preparation of this Report, FEI conducted multiple stakeholder engagement sessions which included participation by intervener representatives involved in FEI's rate design and rate setting processes, all shipper agents, and with BCUC staff present as observers. FEI conducted individual sessions with shipper agents and group sessions with shipper agents, intervener

[6] Implementation took place in the Lower Mainland (including Vancouver Island) and Interior regions effective November 1, 2018, and in the Columbia region (including East Kootenay) effective November 1, 2019.

[7] No shipper agents have chosen to discontinue operating under the Transportation Service Model given the New Rules.

representatives, and BCUC staff to gather feedback and facilitate discussion to better understand the issues they raised. FEI also provided opportunities for shipper agents to share their views on how the Transportation Service Model is working for them under the New Rules. These sessions included identification of and discussion on any issues or challenges they raised as well as reviewing the BCUC Directives. The individual sessions were held with each shipper agent in the spring of 2021. In addition, in the fall of 2021, FEI hosted a group stakeholder session with shipper agents, intervener representatives, and BCUC staff. Shipper agents were provided an opportunity to advance their issues, concerns and suggestions for changes or enhancements to the Transportation Service Model by providing supporting evidence and rationale. In May of 2022, FEI held a final group stakeholder session to provide a high-level summary of its findings and conclusions informing this Report based on the analysis undertaken to meet the BCUC's Directives. Further detail and discussion on the stakeholder engagement sessions is provided in Section 4.

3. TRANSPORTATION SERVICE MODEL

3.1 *BACKGROUND*

Since its inception in 1993, the intent of the Transportation Service Model has been to provide an option for the large commercial and industrial customers on FEI's system to source their gas from a shipper agent (marketer) or on their own, and have the gas delivered directly to FEI's system. Transportation service customers arrange their own commodity and storage and transport (midstream) resources to supply the FEI system with gas at the applicable interconnection points with upstream pipelines.

Large commercial and industrial customers may elect the following transportation rate schedules:

- Rate Schedule RS 22 – Large Volume Transportation Service
- Rate Schedule RS 22A – Transportation Service Inland Area (Closed)
- Rate Schedule RS 22B – Transportation Service Columbia Area (Closed)
- Rate Schedule RS 23 – Large Commercial Transportation Service
- Rate Schedule RS 25 – General Firm Transportation Service
- Rate Schedule RS 26 – Natural Gas Vehicle Transportation Service
- Rate Schedule RS 27 – General Interruptible Transportation Service
- Rate Schedule RS 46 – Liquefied Natural Gas Sales, Dispensing, Liquefied Natural Gas Transportation Service and Transportation Service

A customer's election will depend on their average annual demand and throughput, geographic location, and the provisions for firm and interruptible transportation service on the FEI system.

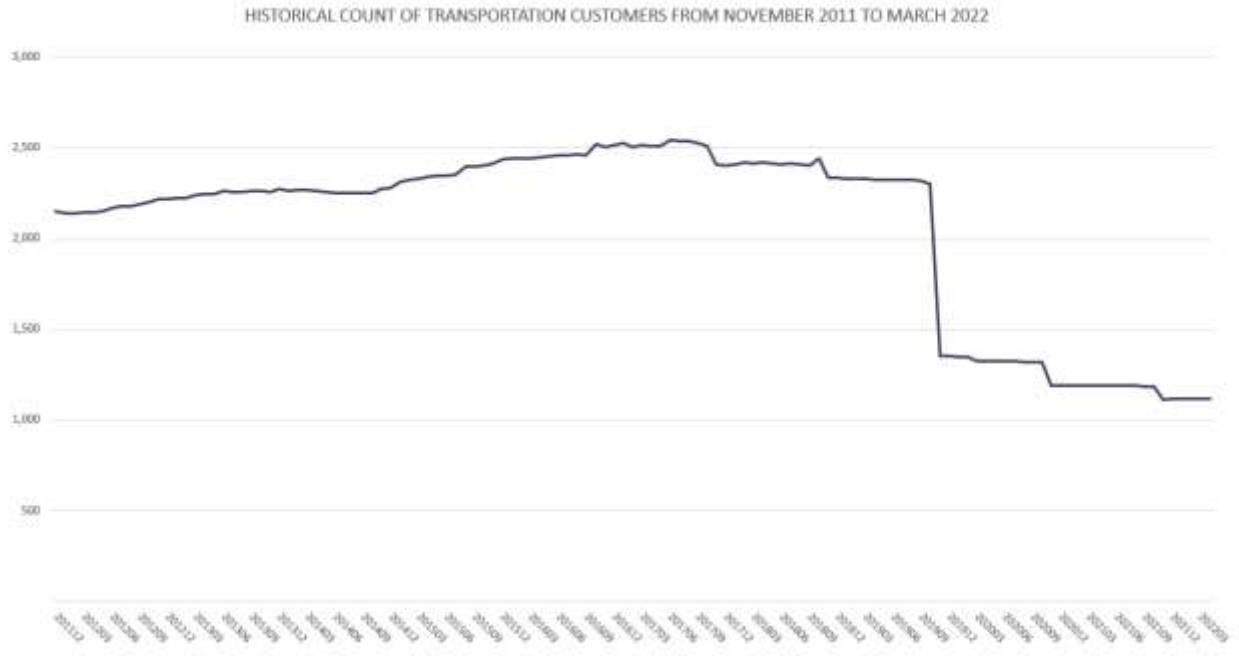
The transportation rate schedules establish the terms and conditions of the transportation service. They provide the operational and system-balancing rules, as well as the charges the customer may incur if balancing provisions are not met. Customers receiving service under a transportation rate schedule may act on their own behalf to purchase and manage their gas supply requirements, or they may appoint a shipper agent to act as an agent (marketer or shipper agent) on their behalf in all matters relating to their gas supply on the FEI system. Appended to each transportation rate schedule is a Transportation Agreement, which is an agreement between FEI and the shipper agent to receive transportation service under the applicable transportation rate schedule.

FEI's Transportation Service Model was developed in 1993 as part of the FEI Phase B Rate Design Application and Decision.[8] Until the 2016 RDA Decision changes were implemented, the rules and operating practices for the Transportation Service Model had remained essentially the

[8] BCUC Decision and Order G-101-93.

same. The below Figure 3-1 below shows the number of customers who have received transportation service from FEI in the past 10 years from 2011 to March 2022.

Figure 3-1: FEI Transportation Service Customer Count – 2011 to March 2022



In November 2019, nearly 950 transportation service customers returned to receive sales (bundled) service[9] directly from FEI. Sales (bundled) service customers receive their commodity as well as delivery service from FEI. The constrained regional market conditions in the years leading up to 2019, particularly at the Sumas market hub, were a contributing factor to the large number of customers returning to sales service. However, the October 9, 2018 pipeline rupture on the Enbridge Inc. (Enbridge) Westcoast Energy Inc. (WEI) T-South pipeline (Enbridge Incident), which exacerbated constrained market conditions, likely also factored into the decisions of many transportation service customers to return to sales service in November 2019. The Enbridge Incident restricted capacity at the already constrained Sumas market hub, which emphasized the commodity price risk to which some transportation service customers were exposed. As a consequence of the market conditions exacerbated by the Enbridge Incident, many transportation service customers faced market shock in their energy bills during Winter 2018-2019, which may have solidified their decisions to move to sales service in order to minimize their price-risk exposure or gas costs. As of March 2022, there were approximately 1,118 transportation service customers (down roughly 56 percent) from a peak of 2,541 customers in June 2017.

[9] For gas supply purposes, core customers are defined as RS 1 through 7 and 46 (sales customers), and also includes customers in the Renewable Natural Gas (RNG) and Customer Choice programs.

3.2 ROLE OF SHIPPER AGENTS

Each of the transportation service rate schedules contains a Notice of Appointment of Shipper Agent and a Shipper Agent Agreement.

The Shipper Agent Agreement is an agreement between FEI and the shipper agent that outlines the rights and obligations of FEI and the shipper agent, with the latter acting on behalf of transportation service customers. One of the main obligations of shipper agents relates to customer group nominations and gas balancing[10], as set out in Rate Schedule 25, Section 3.4, excerpt provided below:

> 3.4 Group Nominations and Balancing
>
> The Shipper Agent will provide Group nomination and balancing to FortisBC Energy in accordance with the sections of the applicable transportation rate schedules.

Shipper agents are responsible for nominating to FEI the physical gas supply required to meet the demand of their customers, as well as for meeting the balancing requirements of their customers as outlined in the transportation rate schedules. In order to meet these obligations, shipper agents are responsible for understanding the demand patterns and load requirements of their customers; developing forecasting tools to anticipate changes in demand; and monitoring weather, operational changes on FEI's system, and pipeline interruptions affecting supply deliveries, as well as other indicators that might impact the demand from their customers and their ability to balance their gas supply delivered to FEI's system appropriately.

The following is a list of shipper agents[11] that act on behalf of the 1,118 customers served under the Transportation Service Model, as of March 2022. FEI has included the date in which each shipper agent became active in FEI's current Web Information & Nomination System (WINS) nomination system:

- Absolute Energy Inc. (2003)
- Access Gas Services (2007)
- Canadian Forest Products Ltd. (2002)
- Campus Energy Partners[12] (2019)
- Cascadia Energy Ltd. (2009)
- Direct Energy (2003)

[10] Shipper Agents are responsible to make "group nominations", which entails supply deliveries onto FEI's system to meet their aggregate customer demand. Shipper Agents are also held to "gas balancing" for supply deliveries that exceed 10% balancing tolerance otherwise they are subject to penalty.

[11] Easy Energy Inc. was an active Shipper Agent effective January 2021, however as of October 31, 2021 they are no longer managing transportation service customers on FEI's System.

[12] Campus Energy Partners was previously known as Altagas Ltd, which started representing transportation service customers in 2002.

- IGI Resources Inc. (2002)
- Macquarie Energy Canada Ltd.[13] (2017)
- Powerex Corp. (2002)
- Sentinel Energy Management (2015)
- Shell Energy North America (Canada) Inc. (2002)
- Tidewater Midstream and Infrastructure (2019)

These transportation shipper agents have been operating under the Transportation Service Model for several years and are familiar with the terms, conditions and obligations in the transportation rate schedules. Since the New Rules came into affect on November 1, 2018, all shipper agents have continued to remain active under the Transportation Service Model and represent customers in BC.

[13] Previously Cargill Ltd. (2004).

4. STAKEHOLDER ENGAGEMENT

FEI conducted several stakeholder sessions individually and in groups in the preparation of this Report. Participants included all shipper agents, representatives from FEI's regular intervener groups and FEI's consultant, Atrium Economics. BCUC staff also participated in as observers in the group sessions.

The following table shows the stakeholder engagement FEI has conducted with various participants as part of this process.

Table 4-1: Stakeholder Engagement Meeting Summary

Meeting Type	Date	Participant(s)
Individual Conference Calls	April 14, 2021	Easy Energy
	April 16, 2021	Campus Energy
	April 20, 2021	Cascadia Energy
	April 23, 2021	Shell Energy
	April 26, 2021	Access Gas
	April 29, 2021	Direct Energy
	May 3, 2021	Absolute Energy
	May 6, 2021	Sentinel
	May 10, 2021	IGI
	May 14, 2021	Tidewater
	June 1, 2021	Macquarie
Pre-meeting Reviews of the Transportation Service Model	September 13, 2021	BCUC Staff
	September 15, 2021	Interveners: BCOAPO, BCSEA CEC, RCIA
Group Stakeholder Sessions	September 22, 2021	BCUC Staff, Interveners, Shipper Agent Community
	May 10, 2022	

In Appendix B, FEI provides the information and summary meeting notes from the various sessions.

FEI began holding individual conference calls with shipper agents in spring of 2021 to discuss their experience operating under the New Rules, review the BCUC Directives, and discuss any other issues. Generally, a wide range of views were expressed, with some shipper agents indicating that managing their business under the New Rules is manageable, while others expressed that they have experienced issues. Some of the suggestions from shipper agents included a specified delivery requirement and a return to the previous 20 percent balancing tolerance.

In Table 4-2 below, FEI has summarized the feedback and requests received from the shipper agents at the individual conference calls and has grouped ones related to specific BCUC Directives under those directives. As shown in the table, there were 29 requests for changes to the Transportation Service Model.

Table 4-2: Summary of Shipper Agent Feedback from Meetings

BCUC Directive	Feedback Summary	Requests
Impact of new balancing rules on the use of core resources including both changes to variable costs of balancing the system to accommodate transportation service and changes to fixed costs arising from a need to contract midstream resources differently	• FEI is analyzing the use of core resources including variable and fixed costs to determine the impact from the new balancing rules.	• FEI completed analysis and has no requests or recommendations for changes to the new balancing rules.
Effectiveness of imbalance return (IR) as a tool for Shippers/Shipper Agents to manage excess inventory including discussion of any modifications made to the allocation methodology in response to changes in demand for imbalance return after the balancing rule changes are implemented	• General feedback indicates the revised allocation is fair, reasonable and provides certainty for planning. • The allocation puts everyone on an equal playing field. • Helpful to manage load, and load swings. • When imbalance return is set to zero, it is difficult to balance within the 10% tolerance. • Questions asking for a better understanding of how FEI manages this service; the process and predictability when imbalance return is reduced or eliminated in order to prepare for these restrictions. • Portion allocated to shipper agent groups with smaller customer demand is small.	1. FEI to release a higher amount of IR as a whole. 2. Mechanism to allow greater IR to specific Marketer(s) by request. 3. Reallocation of unutilized service to other interested Marketers. 4. Minimum allocation of imbalance return to groups with smaller demand. 5. Modify the allocation to incorporate a volatility/load factor. 6. Make IR available during Hold to Authorize (HTA) [14]/Supply restriction periods.

[14] A Hold to Authorize ("HTA") and Supply Restriction refer to operational restrictions that come into affect when sustained cold weather occurs. Under these conditions shipper agents and their customers are held to a 5% tolerance and are subject to potential Unauthorized Over-run Charges.

BCUC Directive	Feedback Summary	Requests
Whether there should be further tightening of tolerances for under-supply	• No shipper agent is in favour of further tightening. • Many did not want the tolerance change to 10% in the first place. • Some shipper agents indicate they are managing under the 10% tolerance and others express difficulty especially during cold weather or customer load volatility. • If a further tightening is imposed, look for models that provide more timely information or certainty such as a delivery requirement.	7. Return to the 20% tolerance. 8. FEI to offer a different percentage of balancing tolerance by season or during specific times of year (i.e. shoulder months) when operational conditions allow.
Whether it is necessary to implement tolerances and associated charges for over-supply	• Nearly all shipper agents oppose an over-supply tolerance and associated charges, especially those with customers having volatile demand. • One shipper agent is open to limits during normal operational circumstances, but not during HTA periods. • If specific shipper agents are over-delivering, then apply the applicable Tariff terms, conditions and charges to withhold inventory.	9. FEI to withhold inventory/pack for specific marketers that are over-delivering as opposed to restricting the service for all.
Whether the balancing charges appropriately recover the costs of providing balancing to transportation service customers and provide sufficient incentive to transportation service customers to balance their supply and demand	• FEI is analyzing the volume of recovered charges. • Generally, shipper agents indicate the incremental charge ($0.25/GJ) provides incentive to balance and avoid the charge. • Some have indicated the charge does not factor into their business planning.	• FEI completed analysis and has no requests or recommendations for changes to the new balancing charges.

BCUC Directive	Feedback Summary	Requests
Nature, timing and adequacy of information provided to shipper agents to manage gas supply resources	• Some shipper agents indicate the data available to them via WINS[15] and SCADA[16] is adequate and sufficient to balance. • Some shipper agents indicate WINS data is insufficient especially when restrictions are in place. • The two-day lag in WINS is not helpful and challenging to use as a forecast. • More timely/real-time data would be useful.	10. FEI to investigate better measurement technology available in the industry. 11. FEI to provide an intra-day estimate in WINS. 12. FEI to improve data quality of the previous day estimate in WINS. 13. FEI to provide a daily delivery requirement during normal and/or Hold to Authorize[17] (HTA)/supply restriction periods.
Administration of inter-customer group balancing and transparency of inter-customer group balancing rules	• Grateful for the trades to reduce UOR charges • Continue process going forward. • Remain outside the Tariff. • Clarify policy/practice and communicate to shipper agents.	14. Automate the process and/or a bulletin board format. 15. Continue process as is (status quo). 16. Proposed a utility super group netting exercise, where if as a whole, all shippers combined deliver sufficient supply to meet demand there should be no penalty.
FEI's criteria for curtailment of inventory returns to shipper agents	• Mix of feedback with shipper agents that understand why FEI limits this service and others who question FEI' decisions to limit. • Shipper agents request a better understanding of FEI's considerations/parameters to enable better planning. • FEI encouraged to provide as much notice as possible when limiting this service.	17. Days when Imbalance return is reduced/ eliminated flag the line item in the nomination screen. 18. FEI to provide a "status update" for operational changes (weather/maintenance/ interconnecting pipeline status, etc.) when reducing IR.
Other: Daily Balancing Charges - Interior	• The Lower Mainland region has a single source of supply (Sumas), and source of supply for the Interior region is different, Station 2. However, penalty for daily balancing charges across all rate schedules is currently based on the Sumas price. Should have a different penalty rate for customers in the Interior.	19. Amend Rate Schedule 22A[18] Daily Balancing Gas charge to a Station 2 price.

[15] Web Information & Nomination System. (WINS).
[16] Supervisory Control and Data Acquisition (SCADA).
[17] Hold to Authorize (HTA) and supply restriction are terms that are used inter-changeably. Under these conditions, the balancing tolerance is reduced from 10 percent to 5 percent and shipper agents are potentially subject to Unauthorize Over-Run (UOR) penalties.
[18] Rate Schedule 22A sets out the terms and conditions for large commercial and industrial customers located in the Inland (Interior) region of BC.

BCUC Directive	Feedback Summary	Requests
Other: Timely Cycle Deadline[19]	• Cycle deadline (timely). WEI offers flexibility to extend the deadline.	20. FEI to allow Timely cycle deadline flexibility.
Other: Apply Penalties to Specific shipper agents	• Utility's approach is to treat everyone the same, which is a mistake. • FEI is encouraged to communicate with the BCUC, and report problems with specific shipper agents.	21. FEI to apply penalties to the entities that are causing core market problems.
Other: HTA and/or Supply Restrictions	• Shipper agents request a better understanding of FEI's considerations and/or parameters for issuing a HTA to enable better planning.	22. FEI to disclose the parameters and conditions for issuing HTA/Supply restrictions. 23. FEI to apply locational/regional HTA – not apply across all regions.
Other	• Requests received after the initial list was circulated	24. Include real time SCADA information prior to the intra-day cycles 25. Create marketer dashboards to provide collected data snapshots of marketer group information 26. Provide clear information, timelines, priorities and other information related to curtailment 27. Tariff be structured so FEI may curtail/HTA only when absolutely necessary 28. Clear and consistent criteria for the return of HTA gas inventory and a mechanism for returning any premium value of that inventory, and specifically that FEI publish its criteria so customer and marketers can understand how FEI will make its decisions/criteria so customer and marketers can understand how FEI will make its decisions 29. FEI to adhere to the Gas Marketers Code of Conduct

1

[19] There are five gas cycles within a gas day: Timely, Evening, Intra-day 1, Intra-day 2 and Intra-day 3. The Timely cycle is the first cycle of the gas day and each cycle has a defined time and is a measure of flow throughout the gas day as a whole.

The summarized list in Table 4-2 was distributed to shipper agents on July 16, 2021. In order to help prioritize the issues, FEI asked shipper agents to rank their top five requests. Once all entries were received, the list was re-distributed back to shipper agents on August 26, 2021. Six additional requests were received after the initial shipper agent summary was prepared for circulation and are included in Requests 24 to 29 in Table 4-2.

As indicated in Table 4-1, FEI held two pre-meeting reviews of the Transportation Service Model, one with BCUC staff on September 13, 2021, and a second with stakeholders (interveners only), on September 15, 2021. These meetings were to refresh the history of the 2016 RDA and the 2016 RDA Decision, review the stakeholder engagement to date, and discuss the objectives of the group stakeholder session.[20]

FEI also held a group stakeholder session, which took place on September 22, 2021 and included the majority of the shipper agents, interveners, BCUC staff, and Atrium Economics. The group stakeholder session was well attended, with most shipper agents present. There were three main objectives for the group stakeholder session. First, to hear feedback as to how the Transportation Service Model has been working under the New Rules. Second, to gather more detailed information from shipper agents to support the issues and requests for potential changes they identified in the individual conference calls held in the spring 2021. Third, to facilitate discussion of these matters with all stakeholders.

FEI did not present a view on any of the issues or requests raised by shipper agents at that time. Rather, FEI acted as a listener and facilitator to hear and better understand the shipper agents and their experience with the New Rules and the Transportation Service Model generally. FEI invited each shipper agent to present at the stakeholder session on the issues or requests that were most significant to them, asking that they provide support and justification for potential changes they were advocating for or advancing for consideration. One shipper agent, Direct Energy, prepared and presented material at the group stakeholder session emphasizing its challenges under the existing Transportation Service Model. Detailed discussion of the issues presented by shipper agents is covered in Section 5 of this Report. No other shipper agent came forward to present at this session.

FEI held the final stakeholder session on May 10, 2022, which included participation from the majority of the shipper agents, interveners, BCUC staff, and Atrium Economics. During this session, Atrium Economics provided a summary of their analysis on the performance of the Transportation Service Model since the New Rules were implemented. As well, FEI presented a high-level overview of its preliminary conclusions for the Report based on the results of its analysis in relation to the BCUC Directives and in consideration of the stakeholder feedback gathered from the earlier sessions.

[20] Held virtually due to COVID-19 restrictions.

5. REVIEW OF BCUC DIRECTIVES

In relation to the BCUC Directives, during the stakeholder sessions, as discussed in Section 4, FEI received feedback and requests for amendments or enhancements to the Transportation Service Model from shipper agents. In Table 4-2, FEI organized this feedback in summary form and grouped ones relevant to specific BCUC Directives. In this section, FEI reviews each of the BCUC Directives including the related requests from shipper agents by providing some background information as required and including discussion supporting FEI's conclusions.

5.1 *IMPACT OF THE NEW BALANCING RULES*

BCUC Directive 1: Impact of new balancing rules on the use of core resources including both changes to variable costs of balancing the system to accommodate transportation service and changes to fixed costs arising from a need to contract midstream resources differently.

Background:

FEI's midstream resources (core resources) are in place to serve FEI core customers (bundled sales customers)[21] in order to balance and meet their daily demand needs. FEI must balance its system daily as a whole at the end of each day. FEI does not procure additional midstream resources to meet the daily balancing needs of transportation service customers as this is the responsibility of each transportation service customer or their shipper agent. The fixed costs of FEI's midstream resources are recovered from FEI's core customers through the applicable storage and transport charge per gigajoule. The storage and transport charge is not applicable to FEI's transportation rate schedules and, as such, transportation service customers do not pay for those midstream resources and are not entitled to benefit from them at the expense of core customers. The implementation of the New Rules did not change how FEI's midstream costs are recovered from core customers, who continue to pay for the midstream resources through the applicable storage and transport charge per GJ.

The purpose of implementing daily balancing provisions and decreasing the balancing tolerance to 10 percent under the New Rules was to incent shipper agents to better match their daily supply requirements with the daily demand from their customers. Because FEI must balance the system as a whole each day, and core sales customers pay for the midstream resources (both contracted and variable), it would not be fair if FEI needed to incur incremental costs to acquire additional variable midstream resources (paid for by core sales customers) to balance the demand of transportation service customers if shipper agents fail to do so. By isolating the supply and demand imbalances of transportation service customers exclusively, as shown in Figures 5-1 and 5-2 below and the related discussion, FEI has observed that the New Rules have properly incented transportation service shipper agents to balance more tightly. The result of shipper

[21] FEI RS 1 to RS 7, and RS 46 (who have elected bundled service) including the applicable rate schedules under the RNG and Customer Choice programs.

agents balancing more tightly is less reliance on FEI's midstream resources (paid by core customers) to support the Transportation Service Model.

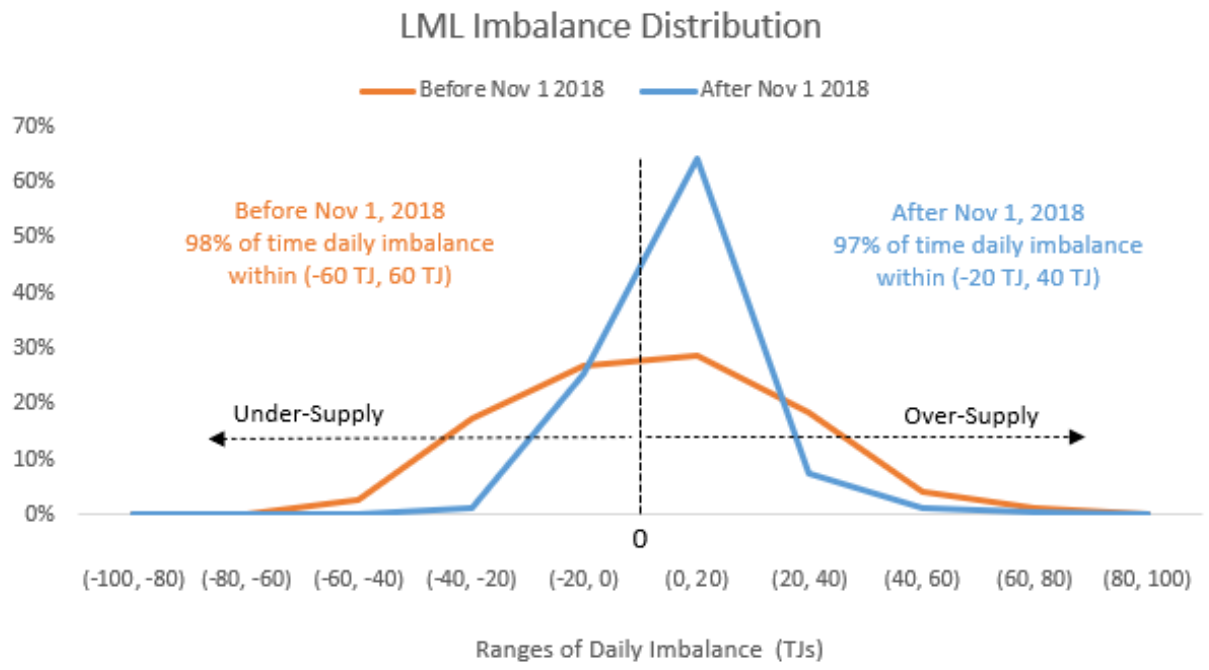
Discussion:

Since implementation of the New Rules, the data in Figure 5-1 and 5-2 shows that shipper agents representing customers in the Lower Mainland and Interior are balancing their supply and demand more closely.[22] When the supply and demand of transportation service customers is balanced more closely, it results in less dependency on FEI's midstream resources to adjust for imbalances caused by transportation customers. FEI believes the New Rules are having the desired impact to incent shipper agents to balance the supply and demand of their customers more closely.

The fluctuation of system supply volumes from shipper agents has changed since the implementation of the New Rules. Figure 5-1 shows the system imbalances borne by transportation customers exclusively in the Lower Mainland. The orange line represents the distribution or range of system imbalances for two years prior to the implementation of the New Rules. Prior to implementation of the New Rules, with daily and monthly balancing provisions in place, and a tolerance of 20 percent, 98 percent of the time system imbalances ranged from -60 TJ to +60 TJ. In contrast, for the three winters following the implementation of the New Rules, where exclusively daily balancing and a reduced tolerance of 10 percent was in effect, 97 percent of the time imbalances tightened to -20 TJ to +40 TJ. Further, the data shows that, nearly 65 percent of the time, imbalances fell within the 0 to 20 TJ range, which from a system perspective is an insignificant volume for FEI to manage. To put this volume into perspective, 20 TJ is less than 5 percent of the total system throughput from sales customers in the Lower Mainland on an average winter day, which ranges from 500 to 700 TJ. Based on this analysis, the improvement both in volume of imbalances as well as the range of imbalances suggests that, in order to balance the system as a whole on a daily basis, FEI is incurring lower variable midstream costs to balance the Transportation Model supply/demand imbalances as compared to before implementation of the New Rules.

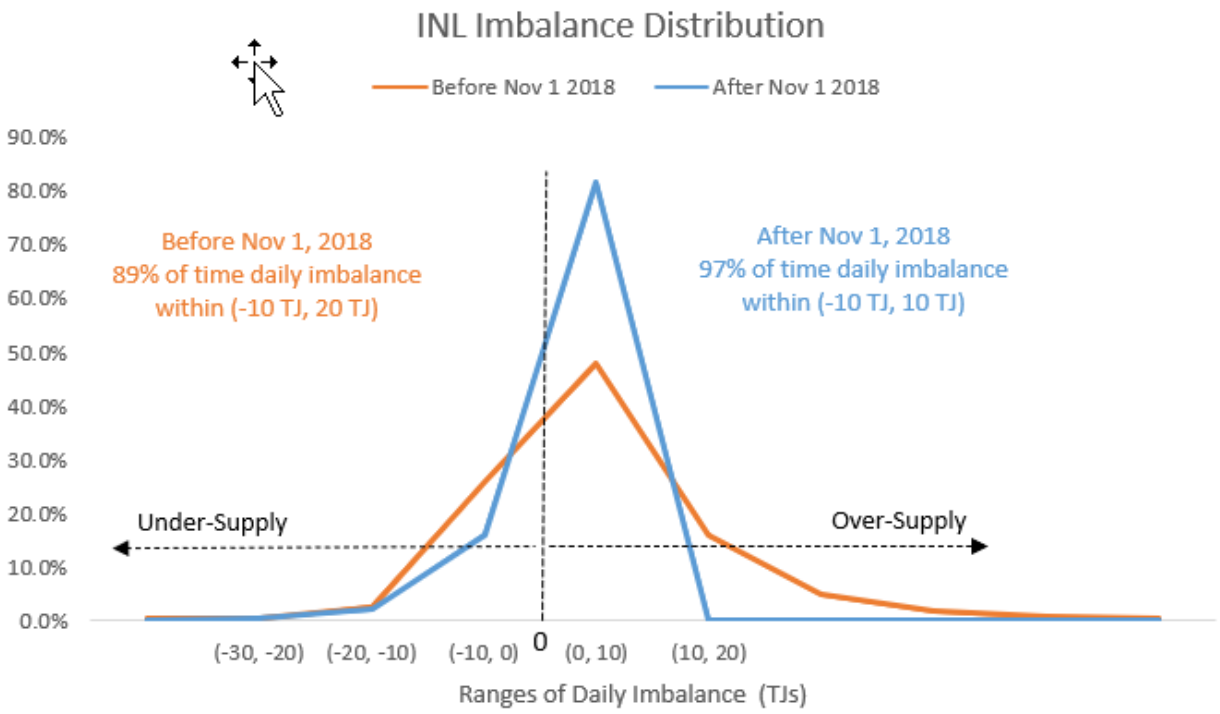
[22] Figures 5-1 and 5-2 shows the balancing performance before and after the New Rules were implemented for customers located in the Lower Mainland and Interior regions respectively. These two regions were isolated as they account for roughly 90% of total transportation demand on FEI's system and largely demonstrate the balancing performance across the system as a whole. For this reason, the Columbia and East Kootenay regions were excluded from this analysis, Analysis which shows total system imbalances including the Columbia and East Kootenay regions is in Section 2.4 of the Atrium Economics Report.

Figure 5-1: Transportation Imbalances in the Lower Mainland



FEI's analysis of system imbalances for customers in the Interior shows similar results. As shown in Figure 5-2, the orange line shows the range of system imbalances for two years prior to the implementation of the New Rules. Prior to implementation of the New Rules, with daily and monthly balancing provisions in place, and a tolerance of 20 percent, 98 percent of the time system imbalances ranged from -10 TJ to +20 TJ. For the three winters following the implementation of the New Rules, where exclusively daily balancing and a reduced tolerance of 10 percent was in effect, 97 percent of the time imbalances tightened slightly to -10 TJ to +10 TJ, which is an insignificant volume for FEI to manage. To put this volume into perspective, 10 TJ is roughly 5 percent of the total system throughput from sales customers in the Interior on an average winter day, which ranges from 150 to 250 TJ. While the change in system imbalances is less significant in the Interior as compared to the Lower Mainland, there has still been an improvement in response to the New Rules.

Figure 5-2: Transportation Imbalances in the Interior



The data in Figures 5-1 and 5-2 and the analysis of the data indicate that the implementation of the New Rules[23] has had a positive impact in decreasing under-supplied volumes since implementation. As such, FEI concludes that the New Rules are providing the appropriate level of incentive for shipper agents to more closely match the supply and demand requirements of their customers, ultimately resulting in less use of FEI's midstream resources to correct for imbalances caused by transportation service customers.

This conclusion is also supported by the independent review as discussed in Section 2 of the Atrium Economics Report. In evaluating the balancing performance both before and after the New Rules were implemented, Atrium Economics found that there was an improvement in the balancing performance of shipper agents.

Conclusion:

Since the implementation of the New Rules, midstream resources have not had to change for the purpose of providing balancing services to the Transportation model. Therefore, FEI has not had to incur any additional fixed (contracted) midstream resources for this purpose. As the data in Figures 5-1 and 5-2 demonstrates, supported by the analysis in Atrium Economics Report, the New Rules have achieved the desired outcome; namely to incent shipper agents to balance and manage their day-to-day business and their customers' daily supply and demand more tightly,

[23] Quantities of gas over the greater of 100 Gigajoules or equal to or in excess of 10 percent or less than 20 percent.

thus requiring less use of FEI's midstream resources to compensate for imbalances caused by transportation service customers. For the foregoing reasons, FEI believes that the New Rules are operating as intended and no further changes are required to the tariffs or business rules for the Transportation Service Model at this time.

5.2 *EFFECTIVENESS OF IMBALANCE RETURN*

BCUC Directive 2: Effectiveness of Imbalance return to incent Shippers to manage system inventory, including discussion for modifications to the allocation in response to changes in demand for imbalance return after the balancing rules were implemented.

Background:

Imbalance return is an interruptible service operating under FEI's business rules enabled in the transportation rate schedules.[24] The imbalance return service facilitates shipper agents' ability to have access to an allocated quantity of gas for the purposes of balancing their customers' demand with the supply they deliver to FEI's system daily within the balancing tolerances to avoid additional charges. Basically, the amount of imbalance return allocated to each shipper agent allows that shipper agent to use their banked supply as a buffer to draw on (or draft against) as a source of supply to match supply and demand for their customers daily in accordance with balancing rules. Shipper agents also have access to their own banked inventory of gas on the system which occurs if they oversupply (deliver more gas to FEI's system than their customers demanded) on a given day.

Imbalance return is an interruptible service on FEI's system and is a source of supply to assist shipper agents in balancing their customers' demand and supply requirements within the balancing tolerances under the New Rules. Imbalance return is an interruptible service because, if operational requirements necessitate, such as when colder weather occurs or during a supply restriction, FEI may need to reduce or eliminate access to imbalance return. In addition to balancing FEI's system overall on a daily basis, FEI's midstream group is also responsible for managing inventory levels for the imbalance return service, determining whether and when restrictions or interruption of the service is necessary, and identifying the amount of imbalance return available to each shipper agent. FEI notes that when restrictions or interruption of the imbalance return service are in place, shipper agents are required to deliver physical supply to FEI's system to meet their customer demand while adhering to the balancing tolerance in place at that time.

When it is necessary for FEI to restrict or interrupt access to imbalance return, shipper agents are incented to direct supply deliveries to interconnection points which discourages or prevents the use of drafting to match supply and demand for their customers on FEI's system. The imbalance

[24] RS 25, Section 8.4 (Adjustments to Inventory).

return service was analyzed in the Atrium Economics Report in Sections 2.2 and 2.3. In Section 2.2, Atrium Economics evaluates how volumes from imbalance return directly assist shipper agents in managing within the 10 percent to 20 percent tolerance. Section 2.3 of the Atrium Economics Report discusses the direct benefit of the imbalance return service in reducing the amount of balancing service charges incurred by shipper agents.

Typically, under normal operating conditions, the following volumes of imbalance return are available to shipper agents and transportation service customers on a daily basis:

a. Lower Mainland region: 20,000 GJ
b. Interior region: 40,000 GJ
c. Columbia region[25]: 10,000 GJ

The method FEI uses for allocating imbalance return volumes by region is handled through operational business rules which were reviewed with shipper agents in late 2018 and, based on their feedback, were revised and implemented effective November 1, 2018 (coincident with the implementation of the New Rules). The calculation which forms the basis of the allocation of available imbalance return volumes within each region for each shipper agent is based on each shipper agent's previous 30 day average demand. The allocation is revised and reset at the beginning of each month and applies for the duration of that month. FEI provides an example of how the allocation of available imbalance return gas volumes is calculated for shipper agents in the Interior region in Table 5-1 below. As noted above, the Interior region is allocated a total of 40,000 GJ of imbalance return gas monthly.

Table 5-1: Imbalance Return Calculation Example

Service Area: Interior	Average 30 Day Demand	Percentage Allocation	Allocated Amount
Shipper Agent A	15,000	29%	11,600
Shipper Abent B	7,500	14%	5,600
Shipper Agent C	2,000	4%	1,600
Shipper Abent D	1,500	3%	1,200
Shipper Agent E	6,000	12%	4,800
Shipper Abent F	8,000	15%	6,000
Shipper Abent G	12,000	23%	9,200
	52,000		**40,000**

In the example in Table 5-1 above, Shipper Agent A has a previous average 30-day demand volume of 15,000 GJ and, relative to the total average 30 day demand of 52,000 GJ, Shipper Agent A has an allocation of 29 percent. As a total of 40,000 GJ is available for the Interior region, Shipper Agent A is entitled to 29 percent of that 40,000 GJ, which equals 11,600 GJ. The same calculation applies to all other shipper agents in the Interior region.

[25] Includes East Kootenay region.

Table 5-2 shows the number of days by region that FEI has either reduced imbalance return, or eliminated the service for operational reasons from 2010 to May 2022. When imbalance return is reduced, it means only a portion of the amount authorized under normal operating conditions is available. While there is an increase in the number of days in 2018 and 2019 due to the Enbridge Incident, FEI's reductions of this service have remained consistent over time, and reductions in the 2020 and 2021 years are slightly less in comparison to the years prior to the implementation of the New Rules. As the data shows, this service is available to shipper agents largely throughout the year; the number of days that FEI reduced or eliminated this service in the 2020 and 2021 years is only 2 percent and 8 percent of the time respectively.

Table 5-2: Days of Elimination and Reduction of Imbalance Return From 2010 to May 2022

	Lower Mainland			Interior			Columbia & East Kootenay		
YEAR	Eliminated	Reduced	Total	Eliminated	Reduced	Total	Eliminated	Reduced	Total
2010	20	2	**22**	20	2	**22**			
2011	19	7	**26**	19	7	**26**			
2012	16		**16**	16		**16**			
2013	15	18	**33**	15	18	**33**			
2014	27	12	**39**	27	12	**39**			
2015	27		**27**	17		**17**			
2016	32	17	**49**	32	17	**49**			
2017	32	12	**44**	32	12	**44**			
2018	60	10	**70**	60	4	**64**			
2019	29	6	**35**	27	2	**29**			
2020	5	1	**6**	5	1	**6**	5	1	**6**
2021	28		**28**	22		**22**	22		**22**
2022		10	**10**		10	**10**		10	**10**
Grand Total	**310**	**95**	**405**	**292**	**85**	**377**	**27**	**11**	**38**

The general feedback from the individual conference calls with shipper agents in preparation for this Report indicates that the revised allocations implemented November 1, 2018 are working well for each region. Shipper agents indicated that the imbalance return allocations provide certainty, are done in a fair and equitable manner, and allow shipper agents to better plan their supply requirements for their customers with the assurance of allocated quantities throughout the month. Shipper agents have expressed to FEI that imbalance return is a valuable balancing resource and an essential part of managing the supply requirements of their customers. Additionally, shipper agents have expressed that when imbalance return service is reduced or eliminated, it is more difficult for them to balance within the 10 percent balancing threshold. Shipper agents asked for additional flexibility of this business practice, including allowing imbalance return during periods of restrictions (such as under Hold to Authorize (HTA) conditions), release of greater volumes, and a reallocation when more volumes are available.

In the individual conference calls with shipper agents, FEI received the following requests for amendments to the existing allocation:

1. Release a larger total volume of imbalance return as a whole (Request 1, Table 4-2);

2. Mechanism to allow greater imbalance return volumes to specific shipper agents by request (Request 2, Table 4-2);
3. Reallocation of available volumes to other interested shipper agents (Request 3, Table 4-2);
4. Minimum allocation of imbalance return to shipper agent groups with smaller demand (Request 4, Table 4-2);
5. Modify the allocation methodology to incorporate for volatility and/or load factor (Request 5, Table 4-2); and.
6. Make imbalance return available during HTA and/or supply restriction periods (Request 6, Table 4-2).

Discussion:

1. REQUEST 1: RELEASE A LARGER TOTAL VOLUME OF IMBALANCE RETURN AS A WHOLE

FEI considers that the current volume of imbalance return allocated by region is reasonable as it is based on the total volume under which FEI can efficiently manage, operate and balance the system daily. The total volume of imbalance return represents approximately 20 percent, 45 percent and 40 percent of the average daily winter transportation service load in the Lower Mainland, Interior and Columbia regions respectively.[26] Given that the total amounts of imbalance return allocated by region are rarely fully utilized or relied upon by shipper agents on a daily basis, the current volume of imbalance return allocated by region appears to be sufficient. FEI recognizes that having access to their allocated banked supply through the imbalance return service is a valuable tool for shipper agents to assist them in meeting their daily load and balancing requirements. FEI also recognizes that access to additional volumes of imbalance return would make daily balancing easier for shipper agents. However, because FEI manages the needs of the system as a whole, it requires the operational flexibility to restrict or interrupt the imbalance return service when conditions necessitate (typically during colder weather or supply restrictions/disruptions, i.e. the Enbridge Incident), FEI does not recommend increasing the volumes available under the interruptible imbalance return service. Additionally, FEI wants to avoid the potential for shipper agents to increasingly rely on this interruptible imbalance return service as a source of supply for balancing purposes. Therefore, FEI concludes that the volume of imbalance return by region available to shipper agents remains reasonable to assist in managing their customer demand and, to support FEI's operational flexibility requirements, should not be increased.

[26] Average daily demand over the 2020/21 winter was approximately 95 TJ in the Lower Mainland region (includes demand from the Island Cogen and JV). Available IR is 20 TJ, which represents 20% of daily demand. Average daily demand over the 2020/21 winter was approximately 90 TJ in the Interior. Available IR is 40 TJ which represents nearly 45% to daily demand. Average daily demand over the 2020/21 winter was approximately 25 TJ in the Columbia region (including East Kootenay). Available IR Is 10 TJ which represents 40% of the daily demand.

2. REQUEST 2: MECHANISM TO ALLOW GREATER IMBALANCE RETURN VOLUMES TO SPECIFIC SHIPPER AGENTS BY REQUEST

FEI believes allowing greater volumes of imbalance return to specific shipper agents by request would present challenges from a fairness and equitable perspective. The current allocation in which shipper agents receive a portion of the volume available based on their percentage of historical demand at a given location is fair and reasonable. The current allocation methodology for the imbalance return service was implemented in November of 2018 after FEI held a workshop with shipper agents (in September 2018) to discuss changes. At that time, shipper agents agreed that the revised allocation methodology based on historical demand was reasonable. Amending the allocation methodology to accommodate this request would require modifications to the WINS system with resulting time and costs for development of such a change. FEI believes no changes are required because the current allocation methodology remains fair and equitable to all shipper agents given it is based on the historical volume requirements of each shipper agent and was derived through a collaborative process with shipper agents.

3. REQUEST 3: REALLOCATION OF AVAILABLE VOLUMES TO OTHER INTERESTED SHIPPER AGENTS

Currently, if a shipper agent does not use their full imbalance return allocation, the unused volume is not reallocated to another shipper agent. Imbalance return is allocated fairly based on a shipper agent's percentage of demand, as discussed in Section 5.2, and each shipper agent has the option to choose whether, when and how much of their allocation to use. A reallocation of available volumes under the imbalance return service could cause shipper agents to increasingly rely on this interruptible imbalance return service as a source of supply for balancing purposes, which is not a desired outcome. In addition, developing the tools to manage such reallocations would require a substantial system change to the WINS system. Consequently, FEI believes the current allocation methodology is working well and the costs associated with system changes for WINS to enable the reallocation of volumes is not warranted or necessary at this time.

4. REQUEST 4: MINIMUM ALLOCATION OF IMBALANCE RETURN TO SHIPPER AGENT GROUPS WITH SMALLER DEMAND

This request is from shipper agents representing smaller customer groups with smaller demand, specifically in the Columbia region where in some cases the number of customers grouped at one location is less than ten and under 50 GJ per day. Based on the current allocation methodology, if the aggregate customer demand is small, then the amount of imbalance return allocated is also small. Conversely, if the shipper agent's customer group demand is large, the volume of imbalance return allocated is also large. Shipper agents with smaller customer groups have expressed that the smaller allocation of imbalance return causes them to be at an increased risk of incurring balancing charges. After reviewing this request and based on the minimal system changes required to implement this request, FEI believes it is fair, reasonable and feasible to implement this change by allocating a baseline volume of imbalance return to groups under a minimum volume of average daily demand. During the discussions with shipper agents, a

minimum allocation of 100 GJ per day was suggested. FEI agrees this amount is reasonable and will amend the allocation to provide a minimum volume to shipper agents with smaller groups first, them the remaining volume would be allocated using the existing methodology to the remaining shipper agents. Over the next three months FEI will make the necessary system changes and update its operational business rules and practices to enable a minimum allocation and implement this change in the fall of 2022.

5. REQUEST 5: MODIFY THE ALLOCATION METHODOLOGY TO ACCOUNT FOR VOLATILITY AND/OR LOAD FACTOR

As discussed in Section 5.2, the current allocation methodology for calculating imbalance return is based on actual historical daily demand. If a shipper agent's historical daily customer demand is high or low, these characteristics are currently captured in the allocation of imbalance return[27].

With respect to amending the methodology to account for volatility (defined as load factor), FEI believes that shipper agents are in the best position to understand their customers' demand patterns and characteristics and should manage load swings through their own business practices, such as by securing additional supply or other resources. FEI believes that shipper agents operating within the Transportation Service Model should account for all aspects of their customers' load profile and demand characteristics, including demand swings and volatility. Amending the allocation methodology for imbalance return to account for volatility would require an investment of resources and costs and may result in a less equitable allocation of imbalance return among shipper agents. FEI believes the current allocation methodology is fair and reasonable and that the onus is on shipper agents to account for load volatility factors for their customers.

6. REQUEST 6: MAKE IMBALANCE RETURN AVAILABLE DURING HOLD TO AUTHORIZED (HTA) AND/OR SUPPLY RESTRICTION PERIODS

Historically, the interruptible imbalance return service is available for over 95 percent of the year. The times when imbalance return service is restricted or interrupted occurs due to major weather events or supply disruptions and constraints (e.g. the Enbridge Incident), FEI carefully considers limiting operational services such as imbalance return and or issuing HTA restrictions. Feedback from some shipper agents suggests they were concerned that the factors FEI takes into consideration when issuing a restriction or HTA have changed. FEI confirms that the factors FEI takes into consideration when determining whether a supply restriction is required have remained the same since the inception of the Transportation Service Model. As discussed throughout the individual shipper agent conference calls, HTA situations are variable and dependent upon a number of supply and capacity conditions including, but not limited to:

[27] Customers with more volatile load profiles (which is also referred to as having a high load factor) are typically process driven and may consume multiple fuels which as a result can result in more unpredictable and larger volume swings in demand based on a customer's operational decisions or process upsets rather than customers with more steady heat sensitive loads.

- Upstream / downstream planned or unplanned pipeline supply curtailments and capacity constraints;
- Downstream planned or unplanned regional storage facility outages;
- Actual or forecasted extreme cold weather conditions by region;
- Duration of actual or forecasted extreme cold weather conditions by region;
- Health and inventory level of regional storage facilities; and
- The time of year (i.e., winter) can be a factor and extenuating circumstance for any of the above.

When FEI deems it necessary to issue a restriction such as HTA, shipper agents are held to a tighter balancing tolerance of 5 percent as opposed to the 10 percent under normal circumstances. By holding shipper agents and their transportation service customers to a 5 percent tolerance, shipper agents are required to bring on sufficient supply to meet their demand, and to balance independently or incur balancing charges. When HTA restrictions are in place, the imbalance return service is not available. This is the case because FEI requires operational flexibility to manage the daily balancing of the system given the circumstances that prompted the need for the restriction. During a restricted period, the transportation service charges become applicable to encourage shipper agents to match supply to meet their customers' demand. If FEI were to allow drafting at critical times, such as sustained cold weather or pipeline interruptions, FEI would need to acquire, and core customers would be paying for, additional incremental midstream resources to compensate for the imbalance. In the past, under supply and capacity constrained circumstances in which FEI issued a HTA for longer than normal periods (such as the Enbridge Incident and the reduced WEI capacity due the flooding in November 2021) FEI has, when operationally feasible,[28] provided some relief to shipper agents by allowing access to the imbalance return service. While historically it has not been common practice to release imbalance return during a restricted period, FEI will continue to closely monitor the system during restricted periods on a case-by-case basis to determine if, when, and to what degree it may be able release imbalance return in consideration of the circumstances at the time.

Conclusion:

FEI believes that the imbalance return service is working well as designed and remains fair and equitable because, since the implementation of the New Rules, inventory on FEI's system is being maintained at reasonable levels. In addition, as shown in Table 5-4 and 5-5, the charges incurred by shipper agents when they have been unable to balance under the New Rules have not been significant. Further, the findings in the Atrium Economics Report which demonstrate both an improvement in inventory levels and low charges incurred since the New Rules were implements support these conclusions. However, FEI believes that it is reasonable to proceed with Request

[28] Following the Enbridge incident where FEI imposed numerous days of HTA restrictions, as well as the flooding event in November 2021, FEI monitored daily capacity fluctuations and when there were periods of stabilization of the health of the pipe, FEI was able to provide some relief and allow access to imbalance return.

4, to enable a minimum allocation of imbalance return to groups with smaller demand, and plans to implement this change in the fall of 2022.

The methodology for the current allocation of imbalance return was discussed and agreed upon by shipper agents in the fall of 2018. Through stakeholder engagement in the development of this Report, FEI heard additional requests to further amend the allocation of imbalance return including: 1) for FEI to release greater volumes; 2) allow greater volumes to specific shipper agents; 3) a reallocation of unutilized volumes to other shipper agents; 4) minimum allocation to groups with smaller demand; 5) modify the allocation methodology to account for a volatility (load factor); and 6) allow the service be available during HTA periods, In summary, while the imbalance return service is available to shipper agents largely throughout the year as shown in Table 5-2, it is rarely fully utilized. The time, expense, and resources involved to modify this service based on the requests outweigh the potential benefits. However, as discussed above, FEI has committed to implementing the request (Request 4) to provide a minimum allocation of imbalance return to groups with smaller demand as FEI views this change as fair and reasonable, will incur minimal costs and is easy to implement from system perspective.

5.3 *FURTHER INCREASE TO UNDER-SUPPLY TOLERANCE*

BCUC Directive 3: Whether there should be further tightening of tolerances for under-supply.

Background:

In the 2016 RDA Decision, the BCUC approved the New Rules because they were found to be just, reasonable and not unduly discriminatory, consistent with rate design principles of a fair apportionment of costs among customers, and provide price signals that encourage efficient use of resources.[29] Further, the 2016 RDA Decision recognized that imbalances caused by transportation service customers were being managed by FEI using mid-stream resources that are paid for by sales customers and a greater incentive for transportation customers and their shipper agents to balance within the 10 percent range.[30] The BCUC also found that the 10 percent tolerance level was more in line with industry standards, albeit at the low end compared to other jurisdictions.[31] For the purposes of the preparation of this Report, Atrium Economics has updated its industry research (filed in Appendix 10-1 to the 2016 RDA Application), which is discussed in Section 3 of the Atrium Economics Report confirming that industry thresholds continue to range from zero percent to 15 percent, with 5 percent remaining the most common threshold

FEI's 10 percent tolerance, which applies to all transportation service customers equally, is based on both physical supply plus the quantity of imbalance return allocated to each shipper agent, as discussed in Section 5.2. Therefore, shipper agents who have higher volume requirements or

[29] 2016 RDA Decision, p. 67.
[30] Ibid.
[31] 2016 RDA Decision, pp. 67-68.

customer demand are allocated a greater volume of imbalance return within which to assist them to manage adherence to the 10 percent tolerance. The 10 percent tolerance applies all year, with the exception of HTA periods where the tolerance is reduced to 5 percent.[32] When the 10 percent tolerance is in effect, there are no charges for under-supply imbalances up to the 10 percent threshold; therefore, customers do not pay for balancing within a 10 percent tolerance. As approved under the New Rules, for imbalances within the 10 percent to 20 percent range, a balancing charge of $0.25/GJ is applied. The $0.25/GJ charge reflects (among other things), variable charges of moving gas out of storage facilities to cover the imbalance. For clarity, the New Rules did not change the charges applicable for imbalances beyond the 20 percent tolerance level, for which the balancing charge is $1.10/GJ in winter and $0.30/GJ in summer for gas supply shortfalls.

In the discussions with shipper agents regarding a further tightening of the tolerance for under-supply, no shipper agents were in favour of tightening tolerances further and many expressed they were also not in favour of the 10 percent tolerance approved by the New Rules. Shipper agents expressed a range of feedback with respect to their ability to manage their demand and supply balances under the 10 percent tolerance, especially under cold weather or customer volatility conditions. Consequently, shipper agents made the following two requests.

1. Return to the 20% tolerance (Request 7, Table 4-2); and
2. FEI to offer a different percentage of balancing tolerance by season or during specific times of the year, (i.e. shoulder months) when operational conditions allow (Request 8, Table 4-2).

Discussion:

1. REQUEST 7: RETURN TO THE 20% TOLERANCE.

During the stakeholder individual discussions, some shipper agents requested a return to the 20 percent tolerance which was in effect before the New Rules were implemented. As discussed above, the change to a 10 percent tolerance was approved along with the associated incremental charge for balancing within a 10 percent to 20 percent range as a fair allocation of costs. These New Rules provide an incentive for transportation customers and shipper agents to balance and, when failing to do so, the incremental charges compensate sales customers for the use of midstream resources to move gas in and out of storage facilities.

Based on the minimal level of balancing charges incurred for being outside the threshold as shown in Table 5-4 and 5-5, it is clear that shipper agents have demonstrated they are able to operate under the tighter balancing tolerance. Shipper agents have not presented any information or evidence to the contrary. Rather, the data presented in Figures 5-1 and 5-2 demonstrate that

[32] Pursuant to the Tariff, when supply restrictions are in place, shipper agents much manage within a 5% tolerance or else Unauthorized Over-Run charges apply.

shipper agents have performed with diligence in managing supply to meet demand under the New Rules while incurring minimal balancing charges. Additionally, in Section 3 of the Atrium Economics Report, an update Atrium's review of industry balancing rules and services continues to show that a tighter balancing threshold of 5 percent is most common in the industry.

As such, FEI is not recommending changes to the balancing tolerances implemented with the New Rules because they are working as intended by providing appropriate price signals which are incenting shipper agents to balance their supply and demand daily with minimal balancing charges.

2. REQUEST 8: FEI TO OFFER A DIFFERENT PERCENTAGE OF BALANCING TOLERANCE BY SEASON OR DURING SPECIFIC TIMES OF THE YEAR, (I.E. SHOULDER MONTHS) WHEN OPERATIONAL CONDITIONS ALLOW.

Shipper agents have requested a seasonal balancing tolerance or varied tolerances during specific times of the year when operational conditions allow. Neither FEI nor Atrium Economics is aware of other utilities or pipelines providing seasonal balancing tolerances. As discussed previously in this Report, the balancing provisions in place today incent shipper agents to balance more closely and match supply with customer demand, which is their responsibility as a shipper agent. FEI balances the system as a whole on a daily basis and adheres to tight tolerances with its upstream pipelines, such as 5 percent at Station 2 and plus/minus 2 percent at Nova/NGTL at all times of the year. Given that seasonal balancing is not industry standard and that extreme weather events or other supply and capacity situations can occur at any time of the year, FEI believes that implementing different balancing rules by season or specific times of the year would not be reasonable or practical, and would likely be cost prohibitive when considering the complexities to investigate, implement and operate the system under varying balancing rules.

Conclusion:

There was no evidence to suggest that a return to the 20 percent tolerance is reasonable or necessary. Nor is there evidence to support the design and implementation of variable or seasonal tolerances. Given shipper agents have demonstrated they are managing their supply and demand obligations consistently throughout the year to serve their customers under the 10 percent tolerance and have incurred a low level of balancing charges, FEI believes that the New Rules are reasonable, working as intended, and additional changes are not warranted.

5.4 *IMPLEMENTING AN OVER-SUPPLY TOLERANCE*

BCUC Directive 4: Whether it is necessary to implement tolerances and associated charges for over-supply.

Background:

FEI's balancing threshold of 10 percent applies when shipper agents do not deliver (supply) enough gas to the FEI's system at the interconnection point to meet demand from their customers (i.e., when supply is less than demand). This BCUC Directive asked FEI to consider whether implementation of a tolerance and associated charges for over-supply was necessary. Over-supply is when shipper agents deliver more gas than is required to FEI's system at the interconnection point to meet demand from their customers (i.e., when supply is greater than demand) resulting in excess supply left on FEI's system. During the 2016 Rate Design, FEI raised this issue and demonstrated that historically some shipper agents have over-supplied large volumes of gas to the interconnection point far in excess of the demand from their customers.

The feedback from shipper agents on the question of a threshold and associated charges for over-supplying FEI's system is that they do not wish to have such thresholds or charges implemented. Many shipper agents expressed concern that such tolerances would be too onerous to manage under, especially those with customers who have volatile load profiles. Some shipper agents indicated that the financial cost to buy the gas creates enough of a monetary incentive for shipper agents to not over-supply. Shipper agents encouraged FEI to use the currently approved terms in the tariff rate schedules to discourage or prevent over-supply. During the individual shipper agent calls, some shipper agents requested that:

1. FEI could withhold inventory/pack for specific shipper agents that are consistently over-delivering as opposed to restricting the service for all shipper agents (Request 3, Table 4-2); and

2. FEI to apply penalties and tariff to specific shipper agents (Request 21, Table 4-2).

Discussion:

FEI will discuss both of these requests together as they are similar in nature.

In cases where over-supply situations occur caused by shipper agents who consistently pack FEI's system, Section 7.2 (Adjustment of Requested Quantity) and Section 8.4 (Adjustments to Inventory) in the transportation rate schedules allows FEI to adjust the shippers nomination and inventory as follows:

> 7.2 Adjustment of Requested Quantity
>
> The Shipper or Shipper Agent will provide notice to FortisBC Energy on the WINS, or other method approved by FortisBC Energy, of adjustments to the Requested Quantity for the Day commencing in approximately 24 hours. Adjustments to the Requested Quantity must adhere to the elapsed pro-rata practices of the applicable Transporter(s). FortisBC Energy may adjust, in consultation with the Shipper, the Shipper's Requested Quantity, described in Section 7.1 (Requested

> Quantity), when in the reasonable opinion of FortisBC Energy such modification is required in order to limit the build-up of inventory account quantities.
>
> …
>
> 8.4 Adjustments to Inventory
>
> When on any Day the Shipper delivers more Gas to the Interconnection Point than its actual consumption, except for Gas purchased by FortisBC Energy under Section 21.8 (Shipper's Gas), FortisBC Energy will maintain an inventory account for the Shipper and will increase the balance in the account by the excess amount received. FortisBC Energy reserves the right to limit Gas quantities maintained in the Shipper's inventory account and will from time to time, at its discretion and in consultation with the Shipper, return excess inventory at no charge to the Shipper; this will not relieve the Shipper from its obligation to provide accurate nominations pursuant to Section 7.1 (Requested Quantity).

Section 7.2 allows FEI to adjust the shipper agent's Requested Quantity, which means that FEI has the ability to change their nomination in WINS. If a shipper agent is deliberately packing the system, FEI can amend the nomination to limit the supply delivered to FEI's system in order to limit the build-up of inventory.

Section 8.4 allows FEI the ability to remove the excess inventory from a shipper agent's account and return it to the shipper agent at a later date. This is a tool that FEI could use to manage shipper agents who are not cooperative in maintaining reasonable levels of inventory on FEI's system. This tool enables FEI to exercise action to remove a single shipper's inventory without affecting the entire shipper agent group as a whole. Generally, since implementation of the New Rules, FEI has not found shipper agent inventory levels to be excessive and shipper agents have been working cooperatively with FEI to manage their inventory levels within the 2-3 day range as requested by FEI. FEI's findings are supported in Figure 10 of Section 2.4 of the Atrium Economics Report which assesses system inventories both before and after the New Rules were implemented and finds that system imbalances had improved under the New Rules.

Conclusion:

Since implementation of the New Rules, shipper agent inventory levels are being maintained more consistently at reasonable levels. Consequently, inventory levels on FEI's system as a whole have improved since the New Rules were implemented[33]. FEI continues to actively monitor system imbalances for each shipper agent to ensure levels of inventory are within the 2-3 day acceptable range. Even in the 2018 and 2019 years that were impacted by the Enbridge incident, overall system inventory levels have been reasonable. While the tariff allows FEI to adjust a shipper's nomination and inventory (a paper rather than a physical transaction) and given that under-supply is not currently problematic, FEI does not believe that a tolerance for over-supply is

[33] Atrium Economics Report, Section 2.4.

necessary at this time. FEI will continue to monitor inventory levels should circumstances suggest that consideration of tolerances and associated charges for over-supply may be needed in future.

5.5 *BALANCING CHARGES - COST RECOVERY AND INCENTIVE*

BCUC Directive 5: Whether the balancing charges appropriately recover the costs of providing balancing to transportation service customers and provide sufficient incentive to transportation service customers to balance their supply and demand.

Background:

The balancing charge of $0.25 per GJ for balancing within the 10 to 20 percent range was implemented in the New Rules. When approving the balancing charge in the 2016 RDA Decision, the Panel found that the $0.25 per GJ charge applicable for daily under-deliveries in the 10 to 20 percent tolerance range was just, reasonable and not unduly discriminatory given the methodology for determining the charge is reflective of the potential variable cost to the core of supplying this gas.[34] The revenue from the balancing charges is a credit to the midstream portfolio and reasonably compensate sales customers who pay for the midstream resources used to balance the system.

Discussion:

This BCUC Directive has two aspects to consider. First, does the balancing charge at its current level of $0.25 per GJ continue to appropriately recover the costs of providing balancing to transportation service customers. Second, does the charge provide sufficient incentive for transportation service customers (or their shipper agents) to balance their supply and demand.

First, with respect to the level of the balancing charge, FEI has performed the same cost-based calculation as was performed for the 2016 RDA Application, but with updated inputs of the incremental variable costs based on the actual commodity price. Table 5-3 shows the analysis of the variable cost analysis for system balancing during the winter periods from 2018/19 to 2021/22. The variable costs including NWP commodity charges and fuel costs are based on Sumas prices multiplied by the actual fuel factors to move gas in and out of FEI's market area storage.

Based on the actual commodity price over this time, and the increased costs resulting from the Enbridge incident, the analysis shows that, on average, the incremental variable charge of $0.25 is within range and remains reasonable and appropriately recovers the costs of providing balancing within the 10 percent to 20 percent range.

[34] 2016 RDA Decision, p. 69.

Table 5-3: Incremental Variable Costs for System Balancing

	Sumas Price (CAD$/GJ)	NWP Commodity Charge	NWP Fuel	Storage Fuel	Incremental Variable Costs (CAD$/GJ)
2018/19	$15.05	$0.01	$0.42	$0.20	**$0.63**
2019/20	$3.25	$0.01	$0.07	$0.04	**$0.12**
2020/21	$4.11	$0.01	$0.07	$0.06	**$0.14**
2021/22	$5.76	$0.01	$0.10	$0.08	**$0.19**
Winter Average (CAD$/GJ)					**$0.27**

FEI will monitor midstream costs and periodically perform the cost-based calculation and, if necessary, bring forward a request for a revised charge in a future process.

Second, with respect to the incremental charge providing sufficient incentive to shipper agents to balance their supply and demand, FEI heard from shipper agents in the individual conference calls in spring 2021 that the charge factored into their daily operational decisions. In addition, FEI confirms that some shipper agents have been proactively contacting its Midstream Department to purchase incremental supply to balance their account to avoid incurring balancing charges. Further, with the low volume of incremental balancing charges within the 10 percent to 20 percent range, as discussed further below, it is evident that the charge and the level of the charge is having the intended effect of providing an appropriate incentive for shipper agents to better manage their supply and demand balance.

Table 5-4 below reflects the volume of all of the related transportation service charges (including the balancing service in the 10 percent to 20 percent range) in GJs and Table 5-5 below reflects the dollars collected for those charges incurred by shipper agents. Both Tables are summarized by calendar year from 2012 to March 2022. FEI notes that there are other transportation service charges which were either no longer applicable after implementation of the New Rules or were not impacted by the New Rules. For context in relation to Tables 5-4 and 5-5, the following describes each transportation service charge and its purpose.

- **Backstopping**: Gas made available by FEI as an interruptible backup supply if on any day the authorized quantity is less than the requested or nominated quantity. Backstopping is charged at the Sumas Gas Daily Midpoint price.
- **Monthly Balancing Gas:**[35] Any gas taken at the end of the month which is in excess of the total of the authorized quantity for the month. Monthly Balancing gas is charged at the average of the Sumas Gas Daily Midpoint price throughout the month.
- **Daily Balancing Gas:** Any gas taken during a Day in excess of the authorized quantity. Balancing gas daily is charged at the Sumas Gas Daily Midpoint price.

[35] As monthly balancing provisions were eliminated from the RDA Decision, Monthly Balancing gas charges no longer apply.

- **Balancing Service:** A charge per Gigajoule is provided for under-deliveries beyond the 20% balancing threshold. Charges are $1.10/GJ in winter months November to March and $0.30/GJ for summer months April to October.
- **Balancing Service 10%-20%:** As approved under the New Rules, this is a charge per Gigajoule for under-deliveries within the 10% to 20% balancing threshold. This is an annual charge at $0.25/GJ.
- **Replacement Gas:** Gas provided to a Shipper by FEI in the event the Shipper fails to return the Peaking Gas Quantity. Replacement gas is charged at the Sumas Daily Midpoint price plus 20%.
- **Unauthorized Overrun – under 5%:** Gas taken on any day in excess of the curtailed amount for under-deliveries between 0 and 5%. This charge applies during a Hold to Authorize or Supply restriction and is charged at the Sumas Gas Daily Midpoint price.
- **Unauthorized Overrun – over 5%:** Gas taken on any day in excess of the curtailed amount for under-deliveries over 5%. This charge applies during a Hold to Authorize or Supply restriction and is charged at the greater of Sumas Gas Daily Midpoint price times 1.5 or $20CAD.

Table 5-4: Transportation Service Balancing Charges Volume 2012 to March 31, 2022 (GJ)[36]

Charges	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Backstopping	104,213.0	260,112.0	134,613.0	288,418.0	78,842.0	64,770.0	19,971.0	3,227.0	3,340.0		
Monthly Balancing Gas	452,603.4	403,726.0	258,704.3	164,824.7	125,922.9	191,272.9	72,642.2	2,992.4			
Daily Balancing Gas	61,001.6	133,962.0	90,072.7	60,502.2	60,894.2	41,163.1	37,355.0	327,221.9	77,303.6	43,694.7	1,795.4
Balancing Service	87,457.5	110,989.4	85,304.5	31,274.9	76,409.8	23,450.7	47,465.6	469,373.4	207,256.9	253,544.2	55,883.1
Balancing Service 10% - 20%							10,098.4	256,547.7	119,306.4	94,953.6	33,796.2
Replacement Gas							12.1				
Unauthorized Overrun - Under 5%	2,802.8	800.4	19,591.5		5,790.9	6,738.7	17,145.2	9,756.6	5,334.7	871.2	
Unauthorized Overrun - Over 5%	3,063.8	968.4	20,629.0	12.6	499.9	4,407.0	2,916.4	555.2	409.2	986.2	
Grand Total	**711,142.10**	**910,558.20**	**608,915.00**	**545,032.40**	**348,359.70**	**331,802.40**	**207,605.90**	**1,069,674.16**	**412,950.83**	**394,049.90**	**91,474.70**

Table 5-5: Transportation Service Balancing Charges 2012 to March 31, 2022 (CAD$)

Charges	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Backstopping	$ 264,415.30	$ 1,329,350.73	$ 568,999.59	$ 827,168.84	$ 201,743.97	$ 200,050.35	$ 60,602.36	$ 16,709.95	$ 13,059.64		
Monthly Balancing Gas	$ 1,064,684.11	$ 1,531,926.09	$ 1,111,413.95	$ 473,199.56	$ 407,534.48	$ 609,658.99	$ 187,158.58	$ 8,323.21			
Daily Balancing Gas	$ 140,387.14	$ 465,469.74	$ 372,525.25	$ 165,960.23	$ 136,109.28	$ 133,474.86	$ 121,691.71	$ 1,648,243.19	$ 241,061.13	$ 256,874.00	$ 8,452.74
Balancing Service	$ 49,211.03	$ 73,772.02	$ 76,963.19	$ 18,428.39	$ 76,740.06	$ 23,665.29	$ 37,901.68	$ 370,049.77	$ 121,822.27	$ 121,372.98	$ 61,471.41
Balancing Service 10% - 20%							$ 2,524.64	$ 64,081.21	$ 29,826.44	$ 23,730.29	$ 8,449.12
Replacement Gas							$ 32.51				
Unauthorized Overrun - Under 5%	$ 8,464.58	$ 6,892.09	$ 166,639.45		$ 31,509.69	$ 25,973.17	$ 226,118.76	$ 260,365.46	$ 18,754.13	$ 5,993.34	
Unauthorized Overrun - Over 5%	$ 61,276.00	$ 19,368.00	$ 419,268.33	$ 252.00	$ 9,998.00	$ 88,140.00	$ 59,812.79	$ 17,572.88	$ 8,184.00	$ 19,762.02	
Grand Total	**$ 1,588,438.16**	**$ 3,426,778.67**	**$ 2,715,809.76**	**$ 1,485,009.02**	**$ 863,635.48**	**$ 1,080,962.66**	**$ 695,843.03**	**$ 2,385,345.67**	**$ 432,707.61**	**$ 427,732.63**	**$ 78,373.27**

[36] FEI did not propose and there were no changes to the charges for Backstopping Gas, Unauthorized Overrun Gas, and Replacement Gas approved in the New Rules.

The incremental charge of $0.25 cents for balancing within the 10 percent to 20 percent range introduced by the New Rules in November 1, 2018 is highlighted in orange in Tables 5-4 and 5-5. The data shows that, with the exception of the number of months impacted from October 2018 to 2019 due to the Enbridge Incident,[37] the total volume of charges incurred including the incremental charge for balancing within the 10 percent to 20 percent range is not significantly higher than previous years, and is lower than the charges incurred in 2012 to 2014. During the months impacted by the Enbridge Incident, numerous system restrictions were put in place, which resulted in higher than normal charges. During this time, many shipper agents over delivered to the FEI system in order to avoid additional transportation service charges, in particular, the Unauthorized Overrun over 5 percent charge.[38] Consequently, shipper agents were drafting between the 10 percent to 20 percent tolerance, as well as the 20 percent+ tolerance and incurring additional charges within these ranges in order to access their banked supply. Still, even under the unprecedented circumstances in 2019 and in a more typical year such as 2020, Table 5-5 above shows the total revenues collected from the charge for "balancing service 10 percent to 20 percent" range implemented in the New Rules was relatively low.

In order to help put the volume of charges into perspective, FEI compared the volume of charges relative to total transportation customer demand or system throughput. In the year 2020, the total volume of charges was approximately 412,000 GJ, which is 0.6 percent of the system throughput of 67 PJ. In 2021, the total volume of charges was slightly less at approximately 395,000 GJ, which is 0.54 percent of the system throughput of 73 PJ. FEI submits that the low volume of charges as compared to total system demand reflects that shipper agents are well able to manage the supply and demand of their customers under the New Rules. Further, it is clear that shipper agents have taken steps to manage their business more proactively. For these reasons, shipper agents are largely avoiding significant balancing charges and other transportation service charges.

These relatively low levels of balancing charges in that range demonstrate that the New Rules are providing the appropriate incentive to shipper agents to balance their supply and demand more closely and that shipper agents are demonstrating they are able to do so while incurring minimal incremental balancing charges in that 10 percent to 20 percent category. This finding is supported in the Atrium Economics Report, Section 2.1.1, which concludes that the amount of charges in the 10 percent to 20 percent range after the New Rules were implemented is inconsequential.

Conclusion:

As discussed above, after having performed the cost-based calculation, the incremental charge of $0.25 per GJ remains reasonable and appropriately recovers the costs of balancing to transportation service customers within the 10 percent to 20 percent range. In addition, the low

[37] The Enbridge Incident occurred on October 9, 2018, causing severe supply constraint circumstances on the FEI System in the 2018/19 winter.

[38] Unauthorized Overrun over 5% charge is charged at the greater of 1.5 times the Sumas Daily price or $20 CAD per GJ.

level of incremental balancing charges indicates the charge provides sufficient incentive to transportation service customers to balance supply and demand more tightly as was the intent with the implementation of the New Rules. FEI will monitor midstream costs and periodically perform the cost-based calculation and, if necessary, bring forward a request for a revised charge in a future process.

5.6 *ADEQUACY OF DATA*

BCUC Directive 6: Nature, timing and adequacy of information provided to shipper agents to manage gas supply resources.

Background:

The issue of adequacy of data has been raised and extensively discussed in the 2016 RDA as well as in the BCGMC Complaint.

All shipper agents today have access to the WINS self-serve information platform to view individual customer and group demand by day, historical customer consumption, authorized supply from the interconnects, system inventory, and imbalances. Customer demand is updated daily, and shipper agents can access their customers' information 24 hours a day. To assist in managing large volume customers on FEI's system, shipper agents have also been provided with access to FEI's Supervisory Control and Data Acquisition (SCADA) system. Currently there are seven shipper agents accessing real time hourly flows for thirty-nine large volume customers.

In the 2016 RDA Decision, the Panel stated that the industry has evolved sufficiently and the necessary tools are now available to shipper agents to facilitate the estimation of the daily consumption requirements of their customers.[39] FEI's position remains that the data available to shipper agents is adequate. The fact that shipper agents are managing under the New Rules with minimal transportation service charges incurred supports the conclusion that the data available to shipper agents from WINS and SCADA is sufficient to manage the gas supply requirements of their customers. FEI continues to be of the view that the historical data available is only one input or tool that shipper agents should be considering as part of their overall forecasting process. In addition to historical data, other forecasting considerations need to include the weather forecast, degree-day calculation (which is also a forecast) and historical loads or trends.

Some shipper agents in the individual conference calls felt that the data available to them from WINS and SCADA was sufficient whereas others indicated the data caused challenges for their demand forecast. Those that expressed challenges made the following requests.

1. FEI to investigate better measurement technology available in the industry (Request 10, Table 4-2);

[39] 2016 RDA Decision, p. 64.

2. FEI to provide an intra-day estimate in WINS (Request 11, Table 4-2);
3. FEI to improve data quality of the previous day estimate in WINS (Request 12, Table 4-2);
4. FEI to provide a daily delivery requirement during normal and/or HTA/supply restriction periods (Request 13, Table 4-2);
5. Include read time SCADA information prior to the intra-day cycles (Request 24, Table 4-2); and
6. Create marketer dashboards to provide collected data snapshots of marketer group information (Request 25, Table 4-2).

Discussion:

As these requests are closely aligned, FEI will address the above requests together.

As noted above, FEI considers the data from WINS and SCADA is sufficient to manage gas supply requirements of customers. The independent review provided by Atrium Economics in Section 3 of the Atrium Economics Report of other local distribution companies (Appendix A) shows FEI's data systems are within industry standard practice. During the individual conference calls, some shipper agents stated the historical customer data in WINS, as well as real-time consumption through FEI's SCADA system, was sufficient to manage their customer demand. Currently there are seven shipper agents accessing real time hourly flows for thirty-nine large volume customers, which is roughly 60 percent of the entire transportation service customer demand. As discussed in the 2016 RDA and BCGMC Complaint proceedings, historical demand data is just one piece of information required to forecast customer supply requirements. FEI believes that all shipper agents need to develop their own forecasting methodology and systems to manage their customers' needs.

As discussed in Section 4 of the Atrium Economics Report, an industry survey was conducted with respect to balancing related policies. The survey considered what customer usage data was available to third-party shipper agents or marketers. The findings and conclusions in the Atrium Economics Report supports that FEI's provision of customer usage data through WINS and SCADA aligns with industry norms.

As shown in Section 5.1 of this Report, imbalances have trended in the right direction and overall supply by region has matched demand. Further, the low level of transportation service charges as shown in Tables 5-4 and 5-5 suggests that shipper agents are receiving access to sufficient data. Indeed, shipper agents' ability to perform well under the New Rules with minimal incremental balancing charges demonstrates that the existing tools available to shipper agents, including the current measurement platforms (WINS and SCADA), are providing sufficient data for shipper agents to manage well the supply and demand for their customers.

FEI heard requests from shipper agents for FEI to provide an intra-day estimate as well as improve the previous day estimate. At the May 10 stakeholder session, in order to address the

intra-day request, FEI proposed to move the timing of the cellular devices calling into our system in order to provide the previous day metered customer consumption amount and a current day estimate. Shipper agents did not provide feedback on this proposal at the stakeholder session or anytime thereafter.

With respect to FEI providing a daily delivery requirement, this is not industry standard. Under the structure of the Transportation Service Model, it is the role and responsibility of shipper agents to forecast and manage their supply requirements on behalf of their customers. A model which incorporates a supply delivery requirement is consistent with FEI's Customer Choice model, which is separate from the Transportation Service Model. Shipper agents participate in the Transportation Service Model freely and, in doing so, have accepted the structure of the service offering including the tariffs and business rules that govern the model. Shipper agents are paid by their customers for this very purpose, to manage their supply portfolio in the most cost effective manner possible. In the transportation rate schedules, under Section 7.1 – Requested Quantity, shipper agents are required to provide their best estimate of the quantity of gas their customers will actually consume on the day.

With respect to SCADA information, customer data is refreshed on a real-time hourly basis and is available to shipper agents within all of the gas cycles. The SCADA information available to shipper agents today includes real time information prior to the intraday cycles. As for Request 25 – to create marketer dashboards, this request seems effectively the same as Request 14 – to automate group balancing through a bulletin board format, which is discussed further in Section 5.7. The nature of these requests would require time, information systems changes, and related costs to assess, develop and potentially build such dashboards or bulletin boards. FEI does not believe that an investment of time and resources in the potential creation of dashboards or bulletin boards is required because shipper agents are capable of exchanging information with each other if it is beneficial for them to do so.

Conclusion:

The various issues raised by some shipper agents regarding measurement are not new. During the individual conference calls, some shipper agents expressed that the data available to them from WINS and SCADA was sufficient. Based on FEI's analysis, shipper agents are meeting their supply obligations today under the New Rules (within the 10 percent balancing tolerance) without incurring substantive charges. FEI concludes that the existing data available to transportation customers and shipper agents is sufficient given shipper agents are managing well under the New Rules. This conclusion is also supported by the findings in the Atrium Economics Report.

5.7 ADMINISTRATION OF INTER-CUSTOMER GROUP BALANCING

BCUC Directive 7: Administration of inter-customer group balancing and transparency of inter-customer group balancing rules.

Background:

FEI has allowed retroactive inter-customer group balancing among shipper agents in the past to assist in mitigating Unauthorized Over-Run (UOR) charges in the over 5 percent category. FEI has permitted the practice of inter-customer group balancing, on a case-by-case basis, provided that shipper agents as a whole met the overall customer supply requirements at the interconnection location where the trade was being requested. If the overall supply obligations were met, and there was no detrimental impact to other customers, FEI has provided the flexibility of moving gas supply retroactively to help mitigate balancing charges which one or more shipper agents would have incurred.

In the discussions with shipper agents, generally everyone was appreciative of this informal retroactive inter-customer group balancing process and grateful for the reduction in charges that would otherwise have been incurred. Some shipper agents requested clarification of this process and suggestions for amendments to this process were the following.

1. Automate the process and/or a bulletin board format (Request 14, Table 4-2);
2. Continue process as is (status quo) (Request 15, Table 4-2); and
3. Proposed a utility super group netting exercise, where if as a whole, all shippers combined deliver sufficient supply to meet demand there should be no penalty (Request 16, Table 4-2).

Discussion and FEI General Assessment:

1. REQUEST 14: AUTOMATE THE PROCESS AND/OR A BULLETIN BOARD FORMAT.

Automating the practice of inter-customer group balancing through a new formal process or bulletin board format would involve costs and system changes. FEI's position is that while inter-customer group balancing may be of benefit in certain circumstances, the formalization of FEI's business practice through automation or some form of bulletin board may distort the Transportation Service Model in such a way that it may dis-incent shipper agents from delivering the appropriate supply requirements to their customers. Consistent with its reply submission in the BCGMC Complaint, FEI continues to believe that it:

a) would be of little benefit to the majority of Shipper Agents who do forecast accurately and do not incur significant balancing charges and potentially act as a disincentive for some Shipper Agents to nominate accurately; and

b) may be detrimental to the interests of FEI's sales customers.[40]

FEI notes that shipper agents did not present any proposals during the stakeholder sessions nor provide more clarity on this request. As indicated above, automation of this process may distort the Transportation Service Model. Further, there would be costs and resources required to

[40] BCGMC Complaint, Reply Submissions of FEI, dated May 22, 2020, p. 19.

implement system changes of this nature which may not provide benefit to all shipper agents. In addition, the frequency for which FEI fulfills requests to move gas after the fact is minimal throughout the year.[41] Therefore, in FEI's view, the resources and costs involved would be disproportionate to the potential benefits. Lastly, FEI believes the investment in an automated bulletin board for this purpose is not necessary given all shipper agents are known to each other and can continue to contact one another and disclose the related information as has been done in the past for this very purpose.

2. REQUEST 15: CONTINUE PROCESS AS IS (STATUS QUO).

While the process of the inter-group balancing has created more administrative work for FEI, the incidence of UOR in the over 5 percent category is infrequent, and not overly burdensome to FEI. The existing process is working and, as such FEI does not believe that incurring expenses to automate this process is beneficial. Further, it is important for FEI to maintain oversight to ensure shipper agents are meeting their obligations and making best efforts to meet overall supply requirements at each location prior to facilitating any assistance and concession. Therefore, FEI concludes it is appropriate to continue with the status quo.

3. REQUEST 16: PROPOSED A UTILITY SUPER GROUP NETTING EXERCISE, WHERE IF AS A WHOLE, ALL SHIPPERS COMBINED DELIVER SUFFICIENT SUPPLY TO MEET DEMAND THERE SHOULD BE NO PENALTY.

This request proposes the idea that if overall supply is sufficient to meet demand at a given location, then no charges should apply to any of the shipper agents at that location. The notion of "super-netting" is not standard industry practice and is not permitted by other local distribution companies or pipelines. The Shipper Agent Agreement (appended to the transportation service rate schedules) sets out the responsibilities and obligations between the shipper agent and the customer.[42] One of the primary obligations of shipper agents relates to nomination and in Section 7.1 of the transportation service rate schedules, the shipper agent is "required to provide their best estimate of the quantity" of gas the shipper or customer will actually consume on the day. Further, the transportation service charges included in the Table of Charges in each rate schedule provide incentive to ensure system balancing requirements are met under normal and more critical circumstances (such as cold or severe weather conditions, or upstream capacity or supply disruptions). If a super-netting provision was introduced, it may act as an incentive for some shipper agents to no longer nominate accurately. FEI would be concerned that super-netting could result in fairness and equity concerns among shipper agents and may result in additional risks and costs to sales customers. This type of request is a fundamental restructuring of the Transportation Service Model which would result in significant costs to redesign WINS the nomination system. FEI considers that this request would reduce or limit risk to the shipper agents at the expense of sales customers.

[41] For example, in the 2021/22 winter period, FEI facilitated seven requests to move gas after the fact to help mitigate UOR in the over 5% category.

[42] Transportation rate schedules, Appendix A – Shipper Agent Agreement, Section 3 – Shipper Agent Obligations.

In summary, with respect to the administration of inter-customer group balancing, FEI intends to continue to manage the process as is done today where FEI checks to ensure that the overall supply meets the demand. In doing so, FEI confirms that no additional midstream resources were required for balancing the system, thus ensuring there was no impact to sales customers before contemplating and enabling any supply exchanges in hindsight. FEI will continue to allow retroactive inter-customer group balancing among shipper agents to assist shipper agents in mitigating UOR charges in the over 5 percent category when appropriate to do so.

5.8 *CURTAILMENT CRITERIA FOR IMBALANCE RETURN*

BCUC Directive 8: FEI's criteria for curtailment of inventory returns to shipper agents.

Background:

This BCUC Directive elicited discussion about FEI's criteria for limiting the imbalance return practice. As indicated in Section 5.2, under the background discussion related to BCUC Directive 2, imbalance return is an interruptible service and can be restricted or reduced at FEI's discretion depending on operational needs of the system. As shown in Table 5-2, the number of days where FEI reduced or eliminated imbalance return have been consistent over time. Historically, FEI makes every effort to give as much advance notice as possible with respect to any reductions to or restrictions to the imbalance return service, but as a minimum, notice is provided by the timely cycle so that shipper agents can adjust their business requirements as necessary. There was a mix of feedback from shipper agents, some who indicated they understand why FEI needs to restrict imbalance return and others who questioned the basis for such decisions when issuing restrictions. FEI confirms that its practices related to determining when a restriction needs to be imposed, such as limiting access to imbalance return, have remained the same. While some shipper agents expressed concern that FEI uses an overly cautious approach when issuing restrictions, others felt the imbalance return service was more frequently restricted or interrupted in recent years. Generally, shipper agents expressed a desire for more clarification on how FEI makes these determinations, as well as how they receive notice when this service is limited.

In the discussions with shipper agents, suggestions for amendments to imbalance return were the following.

1. Days when imbalance return is reduced and/or eliminated flag the line item in the nomination screen (Request 17, Table 4-2); and

2. FEI to provide a "status update" for operational changes (weather/maintenance/ interconnecting pipeline status, etc.) when reducing imbalance return (Request 18, Table 4-2).

Discussion and Conclusion:

1. REQUEST 17: DAYS WHEN IMBALANCE RETURN IS REDUCED AND/OR ELIMINATED FLAG THE LINE ITEM IN THE NOMINATION SCREEN.

When the imbalance return service is reduced or interrupted, shipper agents currently receive a cut report issued from the WINS nomination system showing the reduction. Incorporating another layer of notification by flagging the imbalance return nomination field in WINS under these circumstances is a relatively straightforward system change with minimal cost. As such, FEI plans to proceed with enabling this change.

2. REQUEST 18: FEI TO PROVIDE A "STATUS UPDATE" FOR OPERATIONAL CHANGES (WEATHER/MAINTENANCE/ INTERCONNECTING PIPELINE STATUS, ETC.) WHEN REDUCING IMBALANCE RETURN.

As discussed in Section 5.2, the imbalance return service is an interruptible service on FEI's system because, when operational requirements necessitate (such as when colder weather occurs or during a supply or capacity restriction), FEI may need to reduce or eliminate access to imbalance return for operational purposes. When restriction or interruption of the imbalance return service is required, FEI provides notice and typically advises of the reason necessitating the restriction. FEI provides at least 24 hours notice prior to the start of the affected day by direct email as well as posting a notice on its website. If restrictions are required over a weekend, FEI provides as much advance notice as possible so shippers can make supply arrangements through the three-day weekend period[43]. FEI's notices include reasons for the restriction, typically due to cold weather and capacity or supply issues. When operational conditions change, for better or worse, FEI issues follow up notices advising of the change in conditions and restrictions as necessary. FEI carefully considers any decision to issue a restriction or limitation on FEI's system. When considering whether operational requirements on the system necessitate implementing a restriction, FEI takes into account several factors, as discussed in Section 5.2, under BCUC Directive 2, Request 6.

While every situation is different, FEI has remained consistent over time in the factors it considers when faced with reducing or interrupting the imbalance return service. Almost exclusively, FEI's decisions to limit imbalance return are consistent with the timing of restrictions imposed by inter-connecting pipelines[44] and typically are as a result of events or circumstances occurring in the Pacific Northwest.

FEI expects that shipper agents, similar to FEI, are actively monitoring market information that might result in pipeline restrictions, assessing the health of interconnecting pipes which may impact delivered supply or market price, weather, impact to market prices, and planned outages

[44] FEI interconnects with the following pipelines: Enbridge WEI T-South, Northwest Pipeline LLC (Williams) and Foothills PipeLine Ltd. (TCPL/Nova).

in order to plan ahead and be prepared for when restrictions occur. It is the ultimate responsibility of each shipper agent to understand their business and regional market environment to enable better business and contingency planning to ensure the supply needs of their customers are met under all circumstances. FEI currently provides the reasons in its notifications for changes in operational conditions affecting imbalance return, and will continue to do so going forward.

6. ADDITIONAL REQUESTS FOR DISCUSSION

In the Stakeholder engagement sessions, shipper agents raised additional requests for changes to the Transportation Service Model that were beyond what was requested in the BCUC Directives. This section reviews those remaining requests.

6.1 *DAILY BALANCING CHARGES – INTERIOR*

Background:

The RS 22A is the transportation service rate for customers in the Interior service area. The daily balancing gas charge as listed in the Table of Charges within RS 22A is a Sumas Gas Daily price. As gas delivered to the Interior region is generally sourced from Station 2, shipper agents requested a change in the price as follows.

1. Amend RS 22A Daily Balancing Gas Charge to a Station 2 Price (Request 19, Table 4-2).

Discussion and Conclusion:

1. REQUEST 19: AMEND RS 22A DAILY BALANCING GAS CHARGE TO A STATION 2 PRICE.

As indicated in the Table of Charges in all transportation rate schedules, balancing charges for Balancing and Backstopping Gas, Replacement Gas, as well as Unauthorized Overrun Gas charges are all based on a Sumas Gas Daily price.[45] The rationale behind this price point is that Sumas is a more liquid market hub and is a more appropriate benchmark for the market price for natural gas. The price of gas at Station 2 is not reflective of the market and additional costs such as pipeline tolls on Enbridge's WEI T-South system that are required to move the gas to the end user, whether to the Inland or Lower Mainland regions. The Sumas price point tied to all balancing charges is intended to provide the incentive for shipper agents to make arrangements to balance to avoid this charge. As indicated in Table 5-3, the amount of Daily Balancing Gas incurred in 2020 and 2021 is insignificant which demonstrates that the New Rules are achieving the intended outcome. For these reasons, a change to the RS 22A Daily Balancing Gas charge price is not required.

6.2 *TIMELY CYCLE DEADLINE FLEXIBILITY*

Background:

The Enbridge nomination system has the flexibility to extend the timely deadline to allow for late nominations. All of FEI's cycle deadlines, including the timely deadline, are fixed and are designed as timed events; once the cycle deadline is reached, the requests for nominations are

[45] With the exception of RS 25 for the Fort Nelson Service Area where the balancing charges are based on the Station 2 Daily price. Currently there are no customers under this rate schedule.

automatically sent to the interconnecting pipeline. FEI's WINS nomination system does not allow for flexibility to withhold or delay the outbound nominations to the interconnect system for any given cycle. In the discussions with shipper agents, the following request was made:

1. FEI to allow timely cycle deadline flexibility (Request 20, Table 4-2).

Discussion and Conclusion:

2. REQUEST 20: FEI TO ALLOW TIMELY CYCLE DEADLINE FLEXIBILITY.

In basic terms, FEI's existing nomination system incorporates ten timed events to handle both outbound and inbound files for each of the five gas cycles, namely: Timely, Evening, Intra-day 1, Intra-day 2 and Intra-day 3. Within each of the gas cycles, outbound and inbound files are exchanged at specific timed events or deadlines between interconnecting pipelines containing supply nominations and authorized supply for all shippers. These deadlines are in accordance with the North American Energy Standards Board (NAESB) standards, which are in place to establish clear and consistent traffic between pipelines for gas flows between pipelines. Changes to FEI's nomination system to enable flexibility would require time, money and resources. Further, cycle deadlines have been established for a purpose and FEI is not in favour of deviating from NAESB deadlines. Generally, the number of instances in which shipper agents have missed the nomination deadline are very few. FEI believes that the cost, time and resources to incorporate flexibility into the timely deadline far outweighs the benefit associated with a very rare occurrence which is within a shipper agent's control to manage meeting the deadlines.

6.3 *HOLD TO AUTHORIZE AND SUPPLY RESTRICTIONS*

Background:

Shipper agents have questioned FEI's practices of issuing restrictions such as the reduction or elimination of imbalance return and the issue of a HTA or supply restriction. Shipper agents have asked for more transparency and more clarity of communication so they can anticipate and forecast when limitations may come into play to enable better business and contingency planning to ensure supply needs of customers are met. For information purposes, Table 6-1 shows the number of days FEI has issued a HTA from 2010 to May 2022. FEI's practices and decision-making has remained consistent over time, and notwithstanding the increase in restricted days in the 2018 and 2019 years, the number of days are similar in comparison of before and after the New Rules were implemented.

Table 6-1: Days of Hold to Authorize From 2010 to May 2022

YEAR	Lower Mainland	Interior	Columbia and East Kootenay
2010		3	
2011		2	
2012		3	
2013		4	
2014		11	
2016		8	
2017		12	
2018	55	24	
2019	17	17	
2020	3	3	3
2021	23	15	15
Grand Total	**98**	**102**	**18**

In the discussions with shipper agents, suggestions for amendments regarding FEI's process when issuing operational restrictions, were as follows:

1. FEI to disclose the parameters and conditions for issuing HTA and/or supply restrictions (Request 22, Table 4-2);
2. FEI to apply locational/regional HTA – not apply across all regions (Request 23, Table 4-2);
3. Provide clear information, timelines, priorities and other information related to curtailment (Request 26, Table 4-2);
4. Tariff be structured so FEI may curtail/HTA only when absolutely necessary (Request 27, Table 4-2); and
5. Clear and consistent criteria for the return of HTA gas inventory and a mechanism for returning any premium value of that inventory, and specifically that FEI publish its criteria so customer and marketers can understand how FEI will make its decisions/criteria so customer and marketers can understand how FEI will make its decisions (Request 28, Table 4-2).

Discussions and Conclusions:

1. REQUEST 22: FEI TO DISCLOSE THE PARAMETERS AND CONDITIONS FOR ISSUING HTA AND/OR SUPPLY RESTRICTIONS.

Similar to the request regarding FEI's administration of imbalance return, this request asks for more clarity around issuing HTA or supply restrictions. Generally, as shipper agents are aware, FEI takes steps to reduce tolerance levels to 5 percent in response to cold weather or upstream

pipeline restrictions to preserve FEI's midstream resources for the use of core customers (who pay for these resources). Since the inception of the Transportation Service Model, FEI has and continues to use a consistent approach when needing to apply such restrictions.

While every situation is different, FEI has remained consistent over time in the factors it considers when faced with reducing or interrupting the imbalance return service or issuing HTA restrictions. Almost exclusively, FEI's decisions to issue a HTA or supply restriction are consistent with the timing of restrictions imposed by its inter-connecting pipelines and typically are as a result of events or circumstances occurring in the Pacific Northwest.

FEI expects that shipper agents, similar to FEI, are actively monitoring market information that might result in pipeline restrictions, assessing the health of interconnecting pipes which may impact delivered supply or market price, weather, impact to market prices, and planned outages in order to plan ahead and be prepared for when restrictions occur. It is the ultimate responsibility of each shipper agent to understand their business and regional market environment to enable better business and contingency planning to ensure the supply needs of their customers are met under all circumstances.

2. REQUEST 23: FEI TO APPLY LOCATIONAL/REGIONAL HTA – NOT APPLY ACROSS ALL REGIONS.

FEI evaluates conditions both regionally and province wide when contemplating any operational restrictions such as reductions to imbalance return and HTA. Below are some recent examples where FEI imposed of lifted restrictions at a regional level.

- From December 27-29, 2021, FEI issued an interruptible curtailment exclusively for customers located in the Lower Mainland region, due to forecast Design Day temperatures at YVR. Customers in the Interior, Columbia and East Kootenay regions were not curtailed.
- Following the Enbridge Incident in October 2018, customers in the Lower Mainland, Vancouver Island and Interior regions were restricted to a hold to authorize and imbalance return was reduced to zero effective October 13. With these restrictions in place, from November 20 to 30, FEI released 30,000 GJ per day of available imbalance return to customers in the Lower Mainland region only to provide some relief and allow shipper agents to access banked gas without penalty given cumulative pack building since the Enbridge Incident.
- For 32 days from June 12 to August 13, 2019, FEI increased imbalance return levels in the Interior region from 40,000 to 60,000 GJ per day of available imbalance return (while the Lower Mainland region remained at 40,000) in order to help shipper agents bring down their Interior region pack following the Enbridge incident.

FEI will continue to assess conditions both regionally and province wide when contemplating operational restrictions.

3. REQUEST 26: PROVIDE CLEAR INFORMATION, TIMELINES, PRIORITIES AND OTHER INFORMATION RELATED TO CURTAILMENT.

FEI communicates directly with the affected customers regarding timing of interruptible customer curtailment, providing as much advance notice as possible as well as an estimate of duration. FEI also provides an advisory as a courtesy to the shipper agents in advance of curtailment.

4. REQUEST 27: TARIFF BE STRUCTURED SO FEI MAY CURTAIL/HTA ONLY WHEN ABSOLUTELY NECESSARY.

When cold weather or pipeline restrictions occur, it is FEI's responsibility to protect midstream assets to ensure they are available for use by core customers (who pay for them). In keeping with these obligations and acting reasonably, FEI takes steps only when necessary to impose restrictions to ensure that shipper agents utilize their own resources to meet the load of their customer base.

The relevant sections of FEI's transportation rate schedules regarding curtailment and the obligations of shipper agents under these conditions are set out below.

Section 4.2 of RS 22 states:

> If at any time FortisBC Energy, acting reasonably, determines that it does not have capacity on the FortisBC Energy System to accommodate the Shipper's request for interruptible transportation FortisBC Energy may, for any length of time, interrupt or curtail transportation Service under this rate schedule. Consistent with the provisions of Section 8.5 (Failure to Deliver to Interconnection Point), if at any time FortisBC Energy, acting reasonably, determines that it is not able to provide Balancing Gas or Backstopping Gas, FortisBC Energy may curtail the Shipper's take to the lesser of the Authorized Quantity or the Firm DTQ.

Similarly, Section 4.2 of RS 23 (and equivalent provisions in 25 and 27) provide:

> Consistent with the provisions of Section 7.5 (Failure to deliver to Interconnection Point), if at any time FortisBC Energy, acting reasonably, determines that it is not able to provide Balancing Gas or Backstopping Gas, FortisBC Energy may curtail the Shipper's take to the lesser of the Authorized Quantity or the Firm DTQ.

Section 9.3 of RS 22, and equivalent provisions in the other transportation service rate schedules, indicates the following regarding curtailment of gas balancing:

> FortisBC Energy may for any reason and for any length of time, interrupt or curtail Gas balancing under this rate schedule.

As indicated in Section 4.2 quoted above, FEI may restrict balancing and curtail or limit the shipper agent to their authorized quantity or firm DTQ. For any restrictions regarding imbalance return, interruptible customer curtailment and supply restrictions/HTA are implemented only when

necessary. Historically, as a courtesy, FEI has provided notice of changes to imbalance return availability or HTA restrictions in advance of the timely cycle in order for shipper agents to arrange for the appropriate amount of gas with these restrictions in place.

5. REQUEST 28: CLEAR AND CONSISTENT CRITERIA FOR THE RETURN OF HTA GAS INVENTORY AND A MECHANISM FOR RETURNING ANY PREMIUM VALUE OF THAT INVENTORY, AND SPECIFICALLY THAT FEI PUBLISH ITS CRITERIA SO CUSTOMER AND MARKETERS CAN UNDERSTAND HOW FEI WILL MAKE ITS DECISIONS/CRITERIA SO CUSTOMER AND MARKETERS CAN UNDERSTAND HOW FEI WILL MAKE ITS DECISIONS.

The issue of the return of shipper agent HTA gas inventory and any premium value of that inventory was canvassed in the BCGMC Complaint. However, there was no evidence to support this assertion. FEI acknowledges that shipper agents tend to over deliver during HTA periods to avoid UOR penalties; however, historically it has been only a few shipper agents responsible for excessive over-supply. Excluding these few shipper agents that have excessively over-delivered during HTA periods, the volumes are not significant. As shown in Section 5.1, Figures 5-1 and 5-2, the volume of system imbalances as well as the range of imbalances have tightened since the implementation of the New Rules. Additionally, the analysis provided in the Atrium Economic Report shows that shipper agents are managing within the 10 percent to 20 percent tolerance and inventory levels have been reasonable since the New Rules were implemented. This supports the conclusion that the New Rules are incenting shipper agents to balance more tightly under all circumstances and, therefore, the issue of over-delivery during HTA periods is not occurring to the same degree as before the implementation of the New Rules.

It is the responsibility of the appointed shipper agent to forecast and deliver gas requirements for their customers under both normal and more restrictive periods. Any contingency resources required for a shipper agent to also perform during HTA periods is the cost of doing business for shipper agents who choose to operate under the Transportation Service Model. The issue of normal and peak supply arrangements and contingency assets or arrangements is a discussion that should be between the shipper agent and each of their customers including any potential risks their customers may be exposed to from those arrangements.

It is also the responsibility and obligation of shipper agents to monitor market conditions and changes in order to anticipate and forecast their customer supply requirements to ensure they have secured the resources needed under the various market conditions that could materialize.

Given that the over-supply volumes at this time are immaterial as shown in Figures 5-1 and 5-2, FEI believes that consideration of any mechanism and the associated costs for system changes to address managing over-supplied inventory during HTA is not necessary. Further, such a mechanism may, in fact, be a disincentive for shipper agents to properly manage their supply and demand.

6.4 *ADDITIONAL FEEDBACK*

Background:

As part of the BCGMC Complaint, the BCGMC suggested that FEI was in need of a code of conduct for its gas marketing activities to establish a competitive market and level playing field for all participants.

1. FEI TO ADHERE TO THE GAS MARKETERS CODE OF CONDUCT (REQUEST 29, TABLE 4-2).

Conclusion:

This issue of a code of conduct for FEI was reviewed in the BCGMC Complaint and rejected by the BCUC in it is Decision and Order G-210-20, which stated:

> The Panel further notes that the Transportation Service Model was designed to provide FEI with the same margin as its bundled service offerings, therefore providing FEI with no financial benefit from transportation service customers returning to bundled service. As such, the Panel does not consider FEI's regulated utility operations to be in competition with gas marketers or receiving a competitive advantage from control of FEI customer information. The Panel rejects BCGMC's argument that a separate code of conduct is required for FEI's regulated utility business in order to establish a competitive market for all gas marketers and their customers as FEI's regulated service offerings are governed by its tariffs.[46]

[46] BCUC Decision and Order G-210-20, pp. 11-12.

7. SUMMARY AND RECOMMENDED CHANGES

The purpose of the Report was to review and assess the performance of the Transportation Service Model under the New Rules. FEI conducted multiple sessions during the stakeholder engagement process to obtain feedback with respect to the BCUC Directives and consider specific requests made by shipper agents during those sessions in the Report.

For the reasons discussed in this Report, FEI concludes that the Transportation Service Model continues to perform well and has improved under the New Rules. The New Rules are working as intended, system inventories are reasonable, shipper agents are able to balance daily and within the 10 percent tolerance, and the amount of transportation service charges incurred has been minimal. As a result, FEI believes that the New Rules are appropriately incenting shipper agents to meet their obligations to balance, on a daily basis, the demand and supply requirements for their customers under the Transportation Service Model.

As a result of reviewing and evaluating the requests from shipper agents, FEI has committed to making two minor modifications to its operational business rules, which are reasonable, may provide some benefit, will not require material cost, and are relatively easy to implement. First, FEI will update its operational business rules and practices to provide a minimum allocation of imbalance return to groups with smaller demand (Request 4). Second, FEI will incorporate a flag to the imbalance return nomination field in WINS when the imbalance return service is restricted (Request 17).

Appendix A

ATRIUM ECONOMICS – TRANSPORTATION SERVICE BALANCING REVIEW REPORT

ATRIUM ECONOMICS
CENTERED ON ENERGY

FortisBC Energy, Inc.

Transportation Service Balancing Review

June 15, 2022

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1 Introduction and Overview of Atrium's Review

1.1 Atrium Economics' Assignment

FortisBC Energy Inc. ("FEI") retained Atrium Economics LLC ("Atrium") to provide consulting services related to a directive by the British Columbia Utilities Commission ("BCUC" or the "Commission"), in Order G-135-18 in FEI's 2016 Rate Design Application. FEI was directed to file a report on the impact of the amendments to the Transportation Service Model on transportation service balancing by June 1, 2022. In a subsequent BCUC Decision in a complaint filed by the BC Gas Marketers Coalition ("BC GMC"), the Commission included additional topics to be addressed in the FEI report.

An initial part of Atrium's assignment was to review all background material related to the BC GMC complaint, including the following:

- The Initial Letter of Complaint filed by the BC GMC, submitted September 4, 2019
- FEI's Response to the BC GMC complaint, submitted October 11, 2019
- Various Information Requests submitted by both BC GMC and FEI
- BC GMC Final Argument submitted May 15, 2020
- FEI Reply Argument submitted May 22, 2020
- BC GMC Reply Argument submitted May 28, 2020
- BCUC Order No. G-210-20, dated August 10, 2020, and Reasons for Decision

1.2 The BCUC's Directives to FEI

In FEI's 2016 Rate Design proceeding, the BCUC approved amendments to the Transportation Service Model by its Decision (Order G-135-18 dated July 20, 2018). The amendments related to customer balancing rules; implementation of daily balancing for all transportation service customers; a reduction of the daily balancing tolerance; and changes to daily balancing charges for gas supply shortfalls. For customers located in the Lower Mainland (including Vancouver Island) and the Interior, the approved changes became effective on November 1, 2018, and for customers in the Columbia and East Kootenay regions, on November 1, 2019.

The Final Decision in the rate design proceeding directed FEI to file a report on transportation service balancing and assess the impact of the tariff changes by June 1, 2022. The decision directed that the report include an assessment and discussion of the following:

- Impact of new balancing rules on the use of core resources, including both changes to variable costs of balancing the system to accommodate transportation service and changes to fixed costs arising from a need to contract midstream resources differently

- Effectiveness of imbalance return as a tool for shippers/shipper agents[1] to manage excess inventory, including discussion of any modifications made to the allocation methodology in response to changes in demand for imbalance return after the balancing rule changes are implemented,
- Whether there should be further tightening of tolerances for under-supply,
- Whether it is necessary to implement tolerances and associated charges for over-supply, and
- Whether the balancing charges appropriately recover the costs of providing balancing to transportation service customers and provide sufficient incentive to transportation service customers to balance their supply and demand.

In the BCUC Order No. G-210-20, dated August 10,2020 and Reasons for Decision, FEI was directed to include these additional topics in the report:

- Nature, timing, and adequacy of information provided to shipper agents to manage gas supply resources,
- Administration of inter-customer group balancing and transparency of inter-customer group balancing rules, and
- FEI's criteria for curtailment of inventory returns to shipper agents

1.3 Atrium's Review of FEI's Transportation Service Model

Atrium was asked to perform the following analyses using the spreadsheet models that had been developed during our prior engagement with FEI related to the development of the balancing rules, associated tolerance thresholds, and charges:

- Perform analysis of shipper-agents balancing performance before and after the implementation of the new balancing rules, which includes both charges and inventory levels. Compare the performance during the Enbridge pipeline rupture event (2018/2019) versus a normal winter (2019/2020 and 2020/2021).
- Evaluate the use of Imbalance Return (IR) for negative imbalances (i.e., IR draw to meet demand when there is a negative imbalance)
- Provide an assessment of the incidents of Marketers' incurrence of imbalance charges for drafting above the 10% imbalance threshold
- Analyze the imbalance inventory levels (i.e., higher/lower) before and after implementation of the new balancing rules.

[1] Throughout this report, the terms Shippers, Shipper-agents, and Marketers are common natural gas industry terminology used inter-changeably to refer to the commercial entities delivering gas supplies on behalf of transportation customers. Shippers on FEI's system are referred to as Marketers.

1.4 Benchmarking of FEI's Transportation Balancing Rules

Along with the preceding analyses in Section 1.3, Atrium performed a benchmarking study of Local Distribution Companies' ("LDC's") balancing rules & services, including a survey of specific areas of interest to FEI. The benchmarking study and survey are intended to assist FEI in responding to the BCUC's requirement in its Order G-135-18 for an assessment and discussion of the aforementioned list of topics related to the new transportation service balancing rules implemented in 2018-2019. The benchmarking and survey included the following specific areas of interest:

- Review and assessment of the impact of usage measurement on forecasting demand,
- Review and assessment of the rules governing operational restrictions,
- Assessment of the reasonableness of providing concession allowances for smaller shipper groups, and
- Evaluation of appropriateness of eliminating monthly balanced customer groups within FEI's transportation service model.

1.5 Summary of Atrium's Findings and Conclusions

Atrium's research of gas LDCs practices with respect to the provision of customer usage data found no support for the notion that FEI's current measurement and usage information system is an impediment to Marketer's ability to provide reasonable nominations for their customers under similar transportation models. The insignificant levels of imbalance charges incurred by Marketers suggest that the current measurement data provided by FEI are sufficient.

Atrium's benchmarking information showed that defining specific operational conditions and circumstances in a tariff, under which restrictions are to be imposed on shippers, is not a common industry practice. Atrium finds that FEI's process for identifying the conditions under which an operational or supply restriction is warranted conforms with industry practices.

Atrium found no examples of other gas LDCs that provide accommodations within their fee-based gas storage related services, which are on par with FEI's Imbalance Return service, for shippers with small daily demands. However, it is not unreasonable for FEI to provide the described concession in its IR service for shipper/agents serving customer groups with small daily demands if it can be accommodated within the IR structure, is not detrimental to other Marketers, and is not administratively burdensome.

The elimination of monthly balancing and moving exclusively to daily balancing aligns with industry standards. Elimination of monthly balancing appears to have removed the potential for gaming activity, as evidenced by imbalance inventory levels since the new daily balancing provisions were implemented. Daily balancing provides the expected remedy.

2 Atrium's Analysis of FEI's Transportation Balancing Under the Revised Rules

FEI provided Atrium daily source data from January 2015 through May 2021 on each shipper, including daily demand, supply, imbalance return, and ending inventory, from which to conduct an analysis of FEI's transportation balancing under the revised rules. To complement this analysis, FEI also supplied Atrium with a record of Balancing Service charges made from December 2011 through May 2022. Balancing Service charges include those where shipper quantities of gas supplied were:

1. Over the greater of 100 gigajoules (GJs) or equal to or in excess of 20% of the applicable tariffs' Authorized Quantity, and
2. Over the greater of 100 GJs or equal to or in excess of 10% or less than 20% of the applicable tariffs' Authorized Quantity (this charge only applies to shippers in the Lower Mainland and Interior service areas after November 1, 2018, and shippers in all other service areas after November 1, 2019)

2.1 Shipper Balancing Performance Before/After New Rules

Atrium was tasked with evaluating shipper/shipper-agents balancing performance before and after the implementation of the new balancing rules. This includes evaluating both Balancing Service charges and inventory levels for each shipper across FEI's service territory.

Additionally, Atrium completed a comparison of shipper performance in the winter (November through March) during the Enbridge pipeline rupture event (2018/2019) and several typical winters (all other winters from 2014/2015 through 2021/2022).

To evaluate balancing performance, Atrium looked at one winter-time period before implementation of the new rules (November 2016 through March 2017) and one after (November 2019 through March 2020). We compared the percentage of total days in the time period each shipper landed within supply imbalance ranges (i.e., 0 – 10%, between 10 – 20%, or over 20% of the Authorized Quantity[2]), which encompass the imbalance thresholds in FEI's transportation tariffs of 10% and 20%, whereby imbalance charges are incurred. In Figure 1 and Figure 2 below, this comparison is laid out for the Lower Mainland ("LML") service area.

[2] Authorized Quantity = Total physical delivered supply + authorized supply from imbalance return.

Figure 1 - Percentage of days within supply thresholds for the LML service area Nov 2016 – Mar 2017

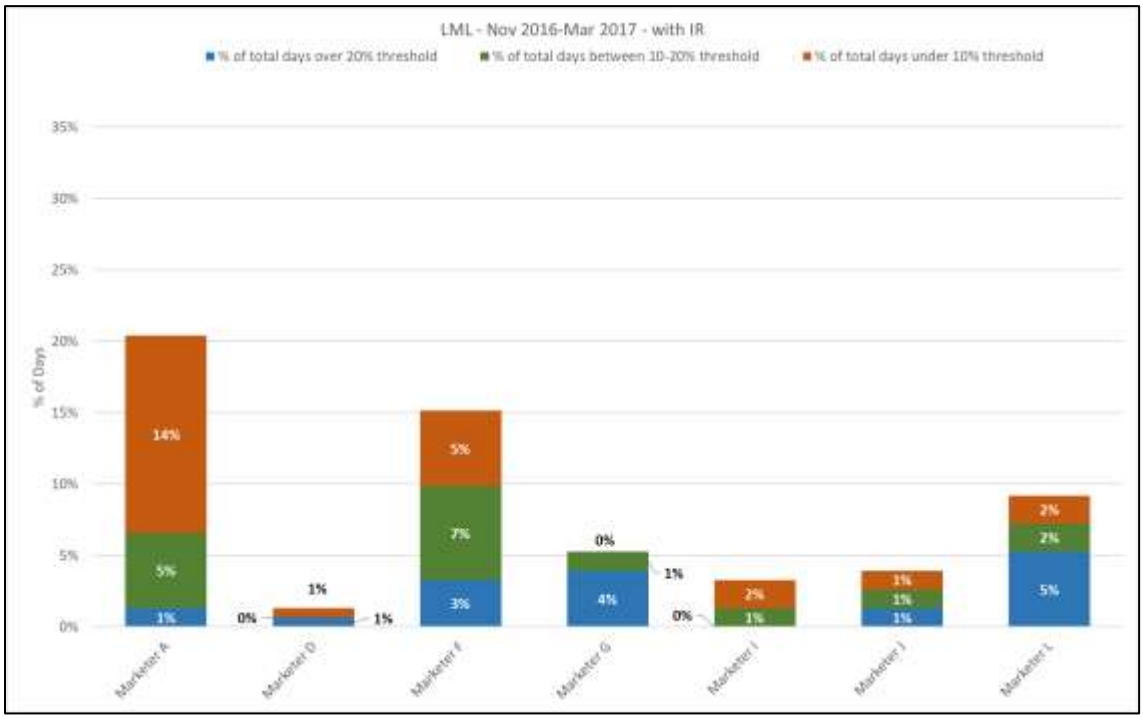
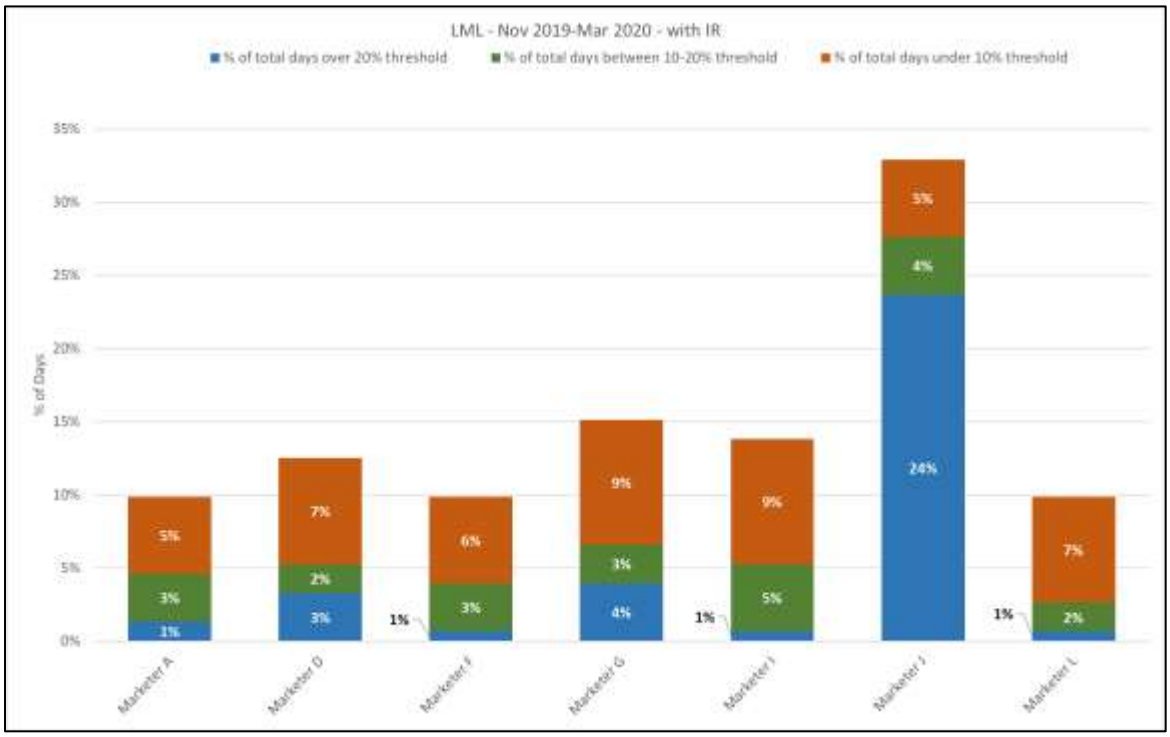


Figure 2 - Percentage of days within supply thresholds for the LML service area Nov 2019 - Mar 2020



This comparison is a good indication of overall Marketer performance and ability to match daily supply to daily demand. It also indicates relative performance for each Marketer between the before and after time periods, and between imbalance thresholds. For example, Marketers F and L have reduced their days above the 20% threshold, while Marketers A, F, and L also reduced their days within the new incremental threshold of 10 – 20%, as shown in Figure 2. The increased size of the bars in the 0 – 10% range relative to the other threshold ranges in Figure 2 are also indicative of the incentive to further manage imbalances provided by the new balancing fee for exceeding the 10% threshold.

For the LML service area as a whole, the average percentage of days where Authorized Quantity was less than daily demand increased from 8.4% to 14%, indicating a greater number of days of under-supplying. However, almost all Marketers remained constant or decreased their percentage of days above the 20% threshold. Comparatively, the average percentage of days under 10% greatly *increased* from 3.6% to 6.9%, with most Marketers able to manage their Authorized Quantities under 10% vis-a vis the higher thresholds, thereby avoiding Balancing Service charges.[3] LML Marketer J's performance, with a significant increase in the percentage of days above the 20% threshold in Figure 2, appears to indicate that this shipper was intentionally drafting more heavily based on its own operational strategy. Collectively, the overall trend shown in Figures 1 and 2 is moving in the right direction and it is apparent that Marketers are complying with the new balancing rules.

This overall trend is also the case when analyzing the Inland/Interior ("INL") service area (**Error! Reference source not found.** and Figure 4 below). There are different combinations of Marketers shown in the following Figures for the INL service area based on the number of active Marketers in this service area. This will also apply to Section 2.2.

[3] The 0 – 10% range is not explicitly addressed in the FEI tariff and Marketers are not required to balance within this range under normal operating conditions.

Figure 3 - Percentage of days within supply thresholds for the INL service area Nov 2016 - Mar 2017

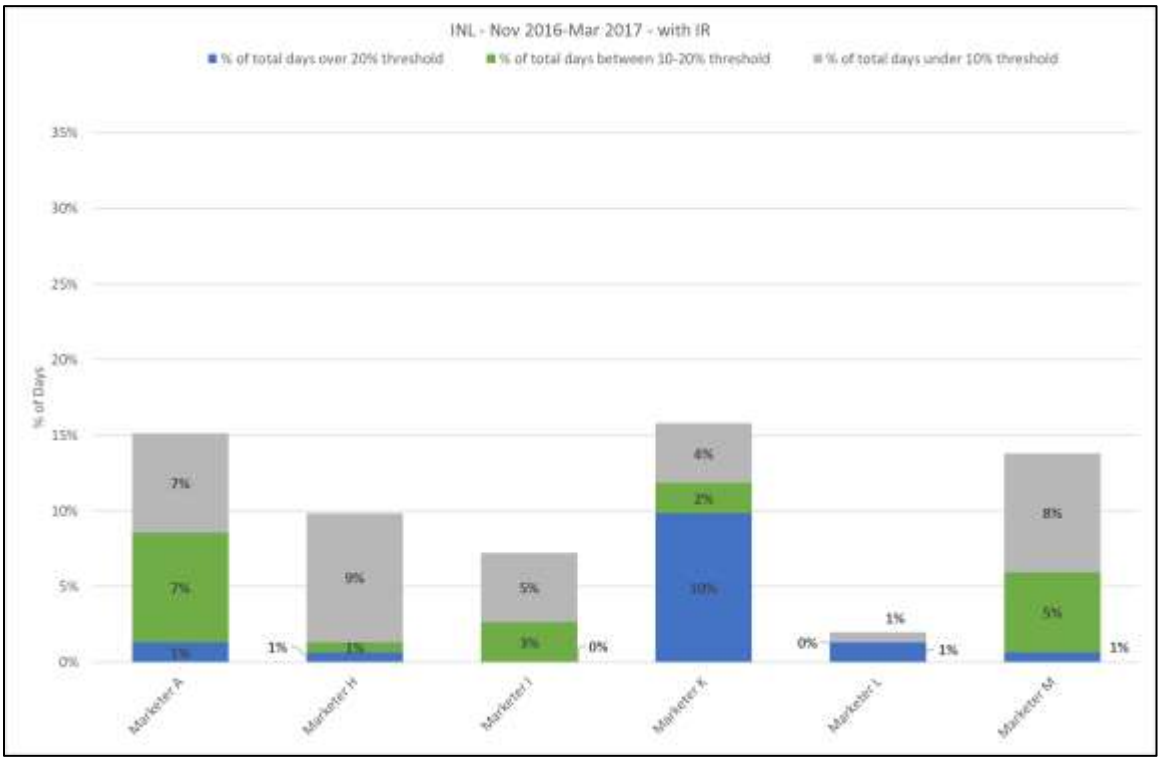
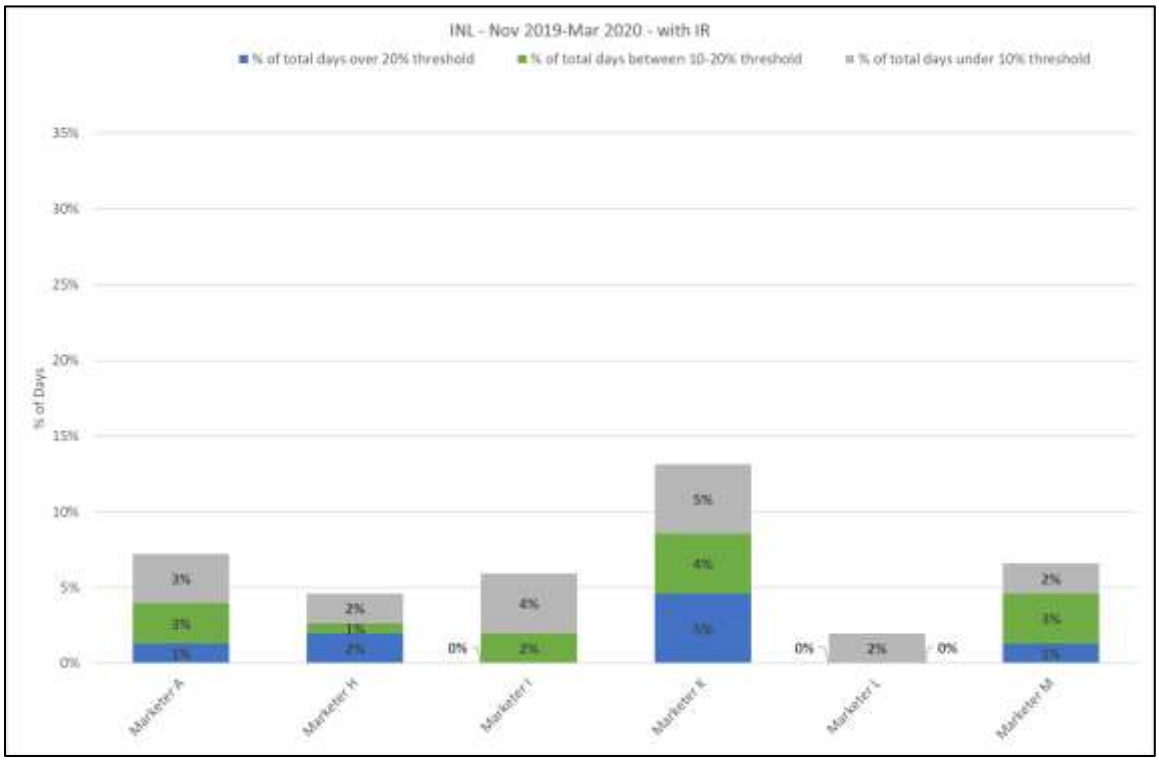


Figure 4 - Percentage of days within supply thresholds for the INL service area Nov 2019 - Mar 2020



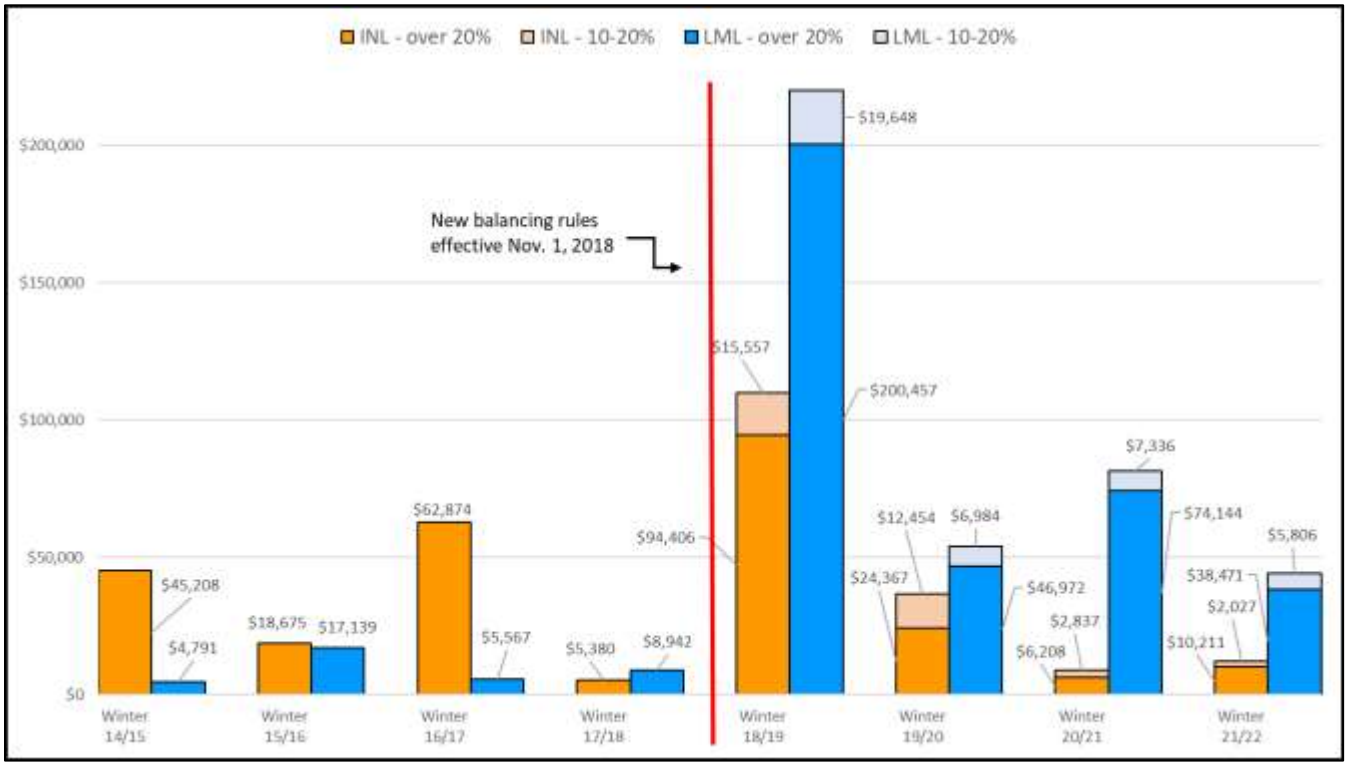
Conversely in the INL service area as a whole, the average percentage of days where Authorized Quantity was less than daily demand *decreased* from 11% to 7%, indicating a lesser number of days of under-supplying, and an overall reduction of Balancing Service charges. Almost all Marketers remained constant or decreased their percentage of days above the 20% threshold, and Marketers A and I also reduced their days within the new incremental threshold of 10 – 20%, as shown in Figure 4. Collectively, the overall imbalance trend shown in Figure 3 and Figure 4 is moving in the right direction and it is apparent that Marketers are complying with the new balancing rules.

Balancing Service charges for negative imbalances in the two service areas under the two thresholds above 10%, while not zero, indicate that Marketers were generally balancing within the rules, reducing instances above the charge thresholds. In addition, due to the relatively few number of days in the time period where undersupply takes place, the corresponding charges appear inconsequential.

2.1.1 Enbridge event vs. normal winters

In Figure 5 below, the Balancing Service charges for the LML and INL service areas are graphed for each winter from 2014/2015 to current, with the different thresholds of charges (10-20% and over 20%) noted separately. The Columbia, East Kootenay, and Fort Nelson service areas are not included here due to low or no Balancing Service charges during these winter-time periods.

Figure 5 – Summary of balancing charges during winter periods from 2014/15 to 2021/22



The rate per GJ charged to shippers for Balancing Service for negative imbalances above the 20% threshold was unchanged over the entire period shown. Both before and after the new balancing rules became effective, the Balancing Service rate remained at $1.10/GJ for winter months. Also, before implementation of the new balancing rules, Marketers managed within daily and monthly balancing provisions. While there were no over-delivery ceilings imposed by FEI either before or after the implementation of the new balancing rules, FEI has consistently requested that Marketers adhere to a two- to three-day level of over-delivery imbalance inventory.

The level of Balancing Service charges shown in Figure 5 for the winter 2018/2019 spiked significantly due to an Enbridge pipeline rupture. Therefore, the level of charges for that period are not representative of a normal winter and are not an appropriate example to demonstrate Marketer performance under the revised balancing rules. During such a critical event, Marketers are held to a 5% under-delivery imbalance level. However, during this period, when operational conditions on the FEI system allowed, flexibility was provided to Marketers via access to their IR inventories. Cooperatively, FEI and the Marketers managed through the extremely disruptive winter 2018/2019 event through the flexibility inherent in the new balancing rules and FEI's administration of them.

Aside from the anomaly of the Enbridge rupture event in winter 2018/2019, under normal operating conditions the INL service area showed significant reductions in Balancing Service charges for negative imbalances above the 20% threshold after implementation of the new rules. The factors influencing the higher level of Balancing Service charges in the LML service area during the years following the 2018/2019 winter event are unknown but appear to indicate that those LML shippers were intentionally drafting more heavily based on their own operational strategies. However, Atrium has no insight into those Marketers' commercial arrangement or business practices. Charges for negative imbalances within the 10-20% threshold, while not zero, indicate that Marketers in both service areas were generally balancing within the new rules and the corresponding charges appear inconsequential.

2.2 Evaluation of the Use of Imbalance Return (IR)

Atrium used a similar approach to evaluate the use of IR for negative imbalances by Marketer. However, with this comparison, Atrium looked at one winter-time period (November 2019 through March 2020) both with and without the use of IR and compared the percentage of days each shipper landed within a certain supply threshold. This comparison is laid out in Figure 6, Figure 7, Figure 8, and Figure 9 below for the LML and INL service areas.

Figure 6 - Percentage of negative imbalance days for the LML service area without IR

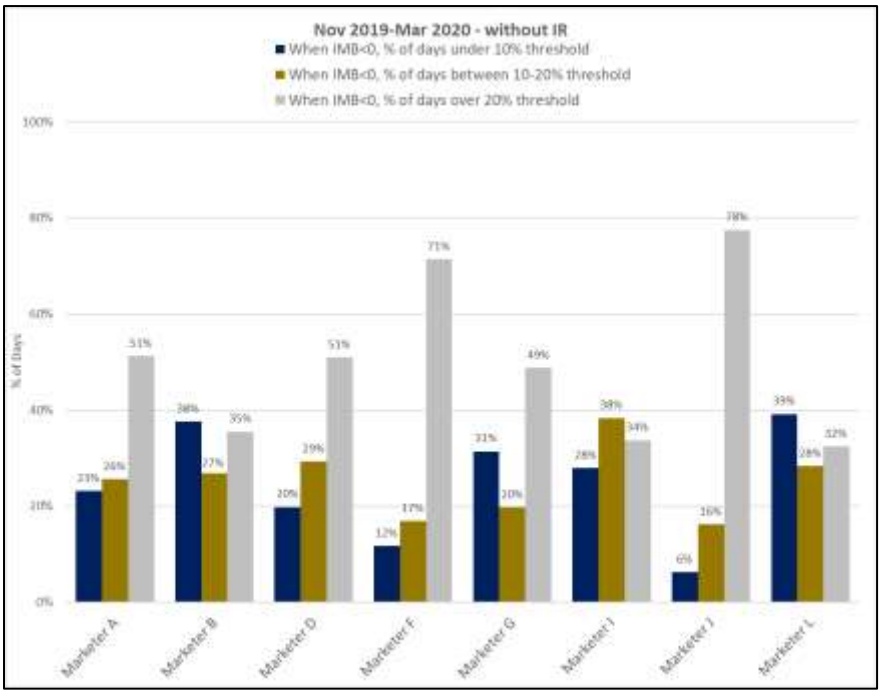


Figure 7 - Percentage of negative imbalance days for the LML service area with IR

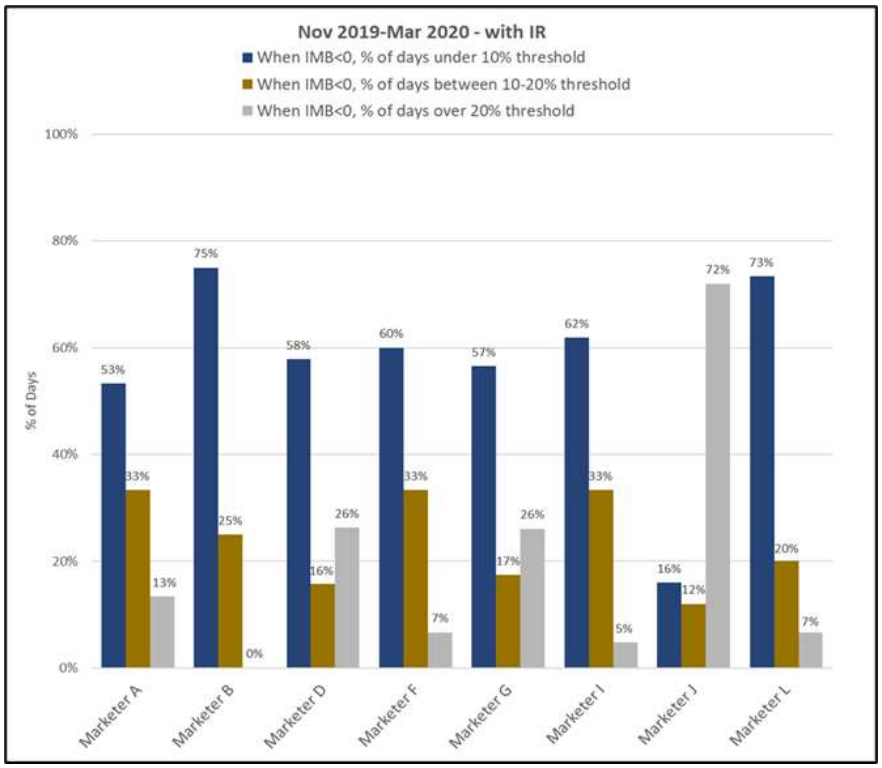


Figure 8 - Percentage of negative imbalance days for the INL service area without IR

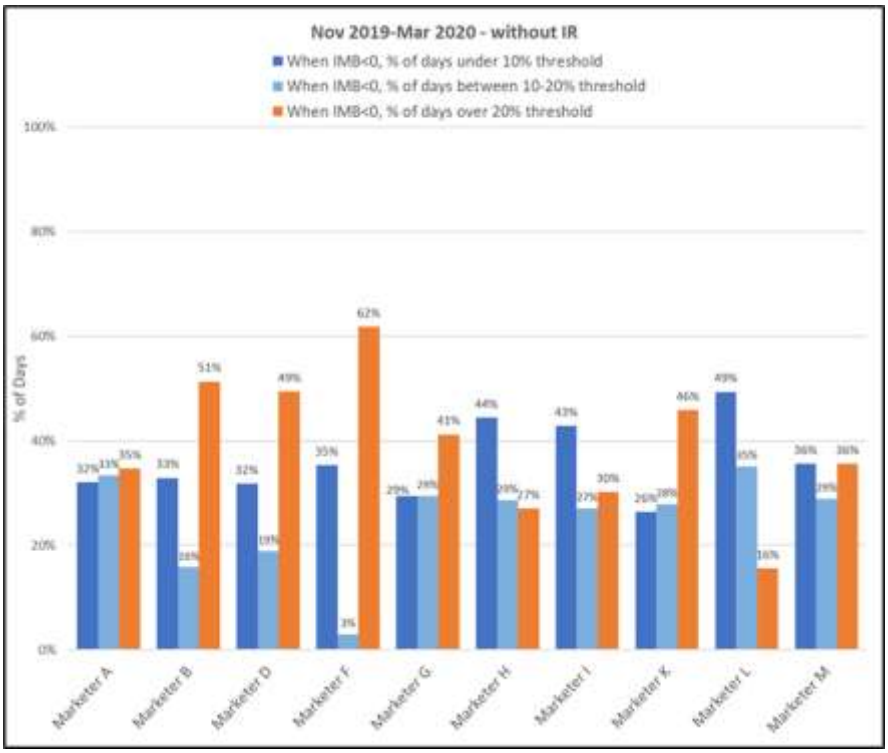
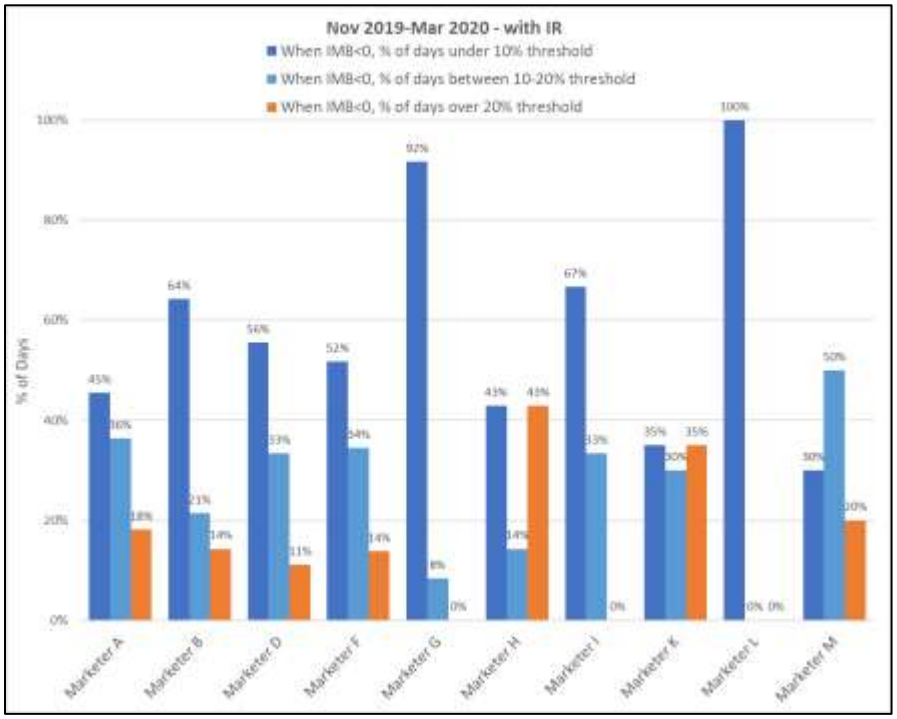


Figure 9 - Percentage of negative imbalance days for the INL service area with IR



The benefit of the IR service to Marketers is evident from these tables. For the LML service area, in this one winter shown, IR helped seven out of eight Marketers lower their percentage

of days above the 20% threshold by an average of 34%. Also, IR helped all eight Marketers increase their percentage of days below the 10% threshold by an average of 32%. Likewise, for the INL service area, in this one winter shown, IR has helped nine out of the ten Marketers lower their share of days above the 20% threshold, by an average of 28%. Also, IR helped nine out of the ten Marketers raise their share of days below the 10% threshold, by an average of 26%.

2.3 Assessment of Imbalance Charges for Drafting Above the 10% Imbalance Threshold

For the same winter analyzed previously (November 2019 – March 2020), Atrium assessed amounts (in GJs) Marketers supplied above the 10% imbalance threshold and subsequent Balancing Service charges incurred. This same assessment was analyzed without using IR to calculate the value of the IR service. Significant reductions in Balancing Service charges were realized when utilizing IR. Table 1 below summarizes these findings for the total FEI system.

Table 1 - Amounts and charges when drafting above the 10% threshold with & without IR for Nov 2019 – Mar 2020[4]

Marketer	GJs over 10% threshold (w/o IR)	*Without IR, Balancing Service charges ($)*	GJs over 10% threshold (with IR)	*With IR, Balancing Service charges ($)*	Reduction in Charges when using IR (%)
Marketer L	411,150	*$176,831*	32,352	*$8,181*	-95%
Marketer F	106,179	*$76,730*	15,565	*$4,251*	-94%
Marketer B	193,972	*$104,793*	23,410	*$6,965*	-93%
Marketer I	88,243	*$45,101*	13,726	*$3,540*	-92%
Marketer E	3,536	*$1,106*	418	*$105*	-91%
Marketer A	803,153	*$442,653*	118,122	*$55,934*	-87%
Marketer G	261,843	*$172,568*	55,080	*$22,190*	-87%
Marketer K	193,699	*$133,922*	44,013	*$20,061*	-85%
Marketer D	14,995	*$9,461*	2,926	*$1,867*	-80%
Marketer H	13,758	*$9,576*	4,792	*$4,909*	-49%
Marketer J	64,859	*$62,521*	39,780	*$36,460*	-42%
Marketer M	146,210	*$124,390*	83,800	*$87,637*	-30%

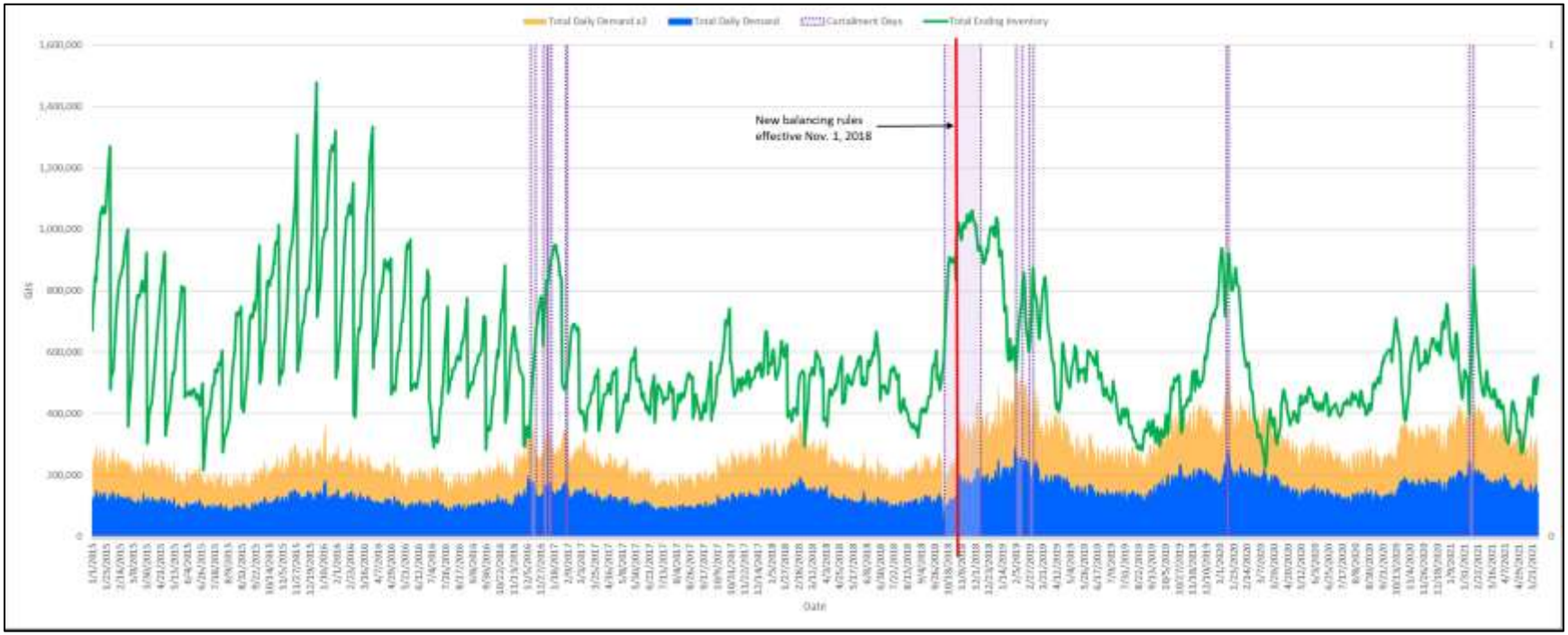
[4] Marketer C is absent from this table because it was not active during this period. Marketer H combines two Marketers that merged during this period.

Significant reductions in Balancing Service charges were evident when using IR to lower the level of imbalances over the total FEI system. Most LDCs with access to storage resources require shippers to subscribe to fee-based balancing, short duration parking/lending, or storage services. Imbalance Return ranks above industry standards as a no-fee, short-duration, storage service that provides Marketers with day-to-day flexibility to address customer differences between expected and actual daily demand, thereby reducing imbalances and the associated imbalance charges.

2.4 Inventory Levels

A final analysis was completed to compare imbalance inventory levels before and after implementation of the new balancing rules, as shown in Figure 10, below. The green line shows the level of daily imbalance inventory from January 1, 2015, to May 21, 2021. The narrow vertical columns identify days when FEI implemented system curtailments days. The vertical red line separates the before-and-after rule implementation periods

Figure 10 - Total System Ending Inventory, Daily Demand, and noted Curtailment Days 2015-2021



Since the implementation of the new balancing rules, inventory levels have trended downward from historical levels and are exhibiting less seasonal volatility. The historically high inventory levels during periods of curtailment are expected. The yellow shaded area combined with the blue, indicates two days of demand, which approximates the level requested by FEI; specifically, that Marketers maintain two to three days of demand in their imbalance inventory.

The metric of "daily ending inventory as a multiple of daily demand" was used to compare the performance of service areas and FEI's total system for three winters before and three winters after implementation of the new rules. Table 2, Table 3, and Table 4 below show the total FEI system, INL, and LML service area imbalance inventory levels over different winter-time periods. Notably, the Winter 18/19 table entry includes the Enbridge rupture event and is not indicative of normal performance. It is only included in the table below for continuity.

Table 2 - Total System Inventory Levels Before and After New Rules

	Total System		
	(a)	(b)	(c) = (b) / (a)
	Avg Daily Demand (GJ)	Avg Daily Ending Inventory (GJ)	Daily End Inv as a multiple of Daily Demand
Winter 15/16	7,814	54,083	6.92
Winter 16/17	9,070	38,604	4.26
Winter 17/18	8,383	30,490	3.64
Winter 18/19	9,522	40,016	4.20
Winter 19/20	5,142	14,916	2.90
Winter 20/21	4,056	12,851	3.17

Table 3 - INL Inventory Levels Before and After New Rules

	INL		
	(d)	(e)	(f) = (e) / (d)
	Avg Daily Demand (GJ)	Avg Daily Ending Inventory (GJ)	Daily End Inv as a multiple of Daily Demand
Winter 15/16	9,541	49,863	5.23
Winter 16/17	11,272	42,388	3.76
Winter 17/18	10,192	29,406	2.89
Winter 18/19	8,767	37,882	4.32
Winter 19/20	8,175	19,622	2.40
Winter 20/21	6,963	20,211	2.90

Table 4 - LML Inventory Levels Before and After New Rules

	LML		
	(g)	(h)	(i) = (h) / (g)
	Avg Daily Demand (GJ)	Avg Daily Ending Inventory (GJ)	Daily End Inv as a multiple of Daily Demand
Winter 15/16	6,374	57,599	9.04
Winter 16/17	7,151	35,306	4.94
Winter 17/18	6,775	31,453	4.64
Winter 18/19	10,352	42,363	4.09
Winter 19/20	6,389	24,826	3.89
Winter 20/21	5,703	23,236	4.07

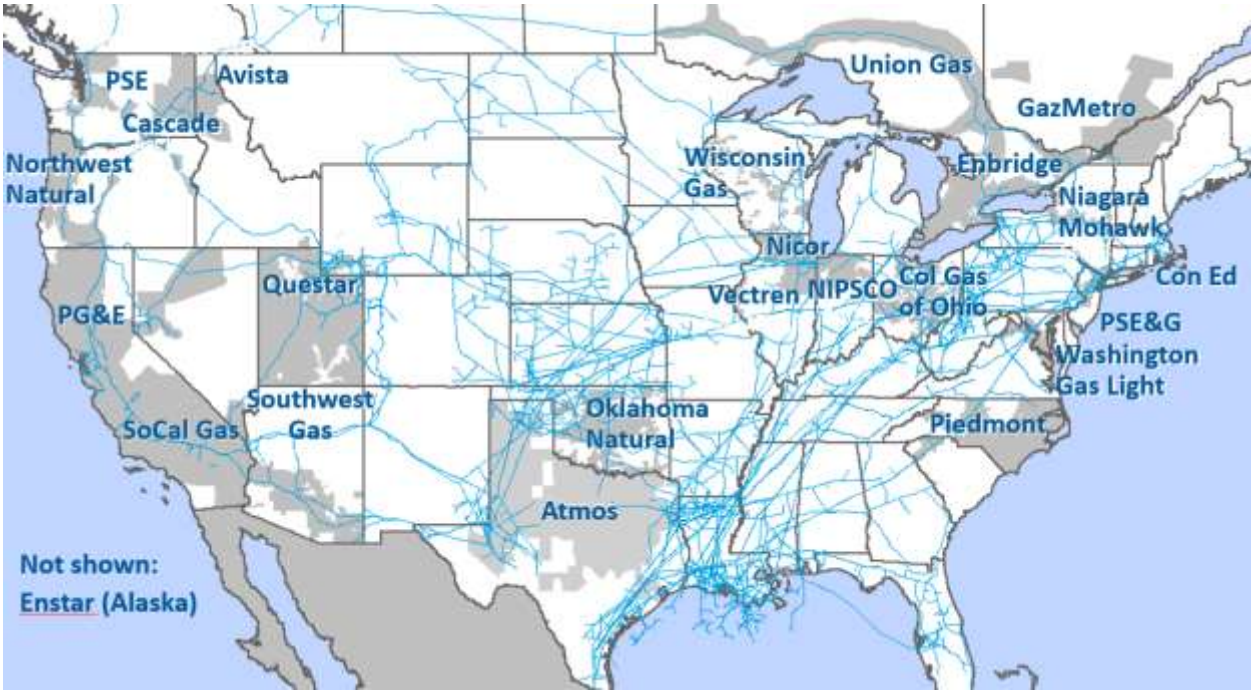
As stated above, FEI requests that Marketers maintain two to three days of demand in their imbalance inventory. Table 2, Table 3, and Table 4 highlight Marketers' improved performance in adhering to this request, as daily ending inventory as a multiple of daily demand have trended downward winter after winter.

The elimination of monthly balancing and moving exclusively to daily balancing aligns with industry standards, as discussed later in Section 3.1.1. Elimination of monthly balancing appears to have removed the potential for gaming activity, as evidenced by imbalance inventory levels under normal operating conditions since the new daily balancing provisions were implemented. Daily balancing provides the expected remedy as evidenced by the downward trend of daily ending inventory as a multiple of daily demand.

3 Industry Insights – Benchmarking LDC Balancing Rules and Services

Atrium examined the balancing provisions contained within the tariffs of twenty-two representative LDCs across North America to determine commonalities between them and highlight unique cases that could be instructive for FEI. The LDCs included in the benchmarking study, their service territories, and upstream interstate or interprovincial pipeline systems are depicted in Figure 11 below.

Figure 11 - LDC's Included in Atrium's Transportation Service Benchmarking & Survey



3.1 Key Provisions of LDC Transportation Balancing Service Tariffs

Balancing provisions vary widely across LDCs due to a lack of mandated standardization, allowing LDCs to develop balancing rules that reflect their unique load profiles and geographic location on an interstate or interprovincial pipeline system. A balancing charge can be a set multiple of the transportation fee, the cost of storage, or incremental gas, depending on whether the imbalance is an over- or under-delivery.

Irrespective of these differences, there are some commonalities among balancing rules, such as the reliance on a penalty structure that allows imbalances within a certain tolerance level, or "dead band," but charges escalating fees beyond the dead band depending on the volume of an imbalance. Many LDCs also offer various storage-related services to their customers to mitigate or net positive and negative imbalances.

3.1.1 Transportation balancing time period

Balancing of Marketer transportation delivered volumes can be required on a daily basis, a monthly basis, or a cumulative basis. Atrium's research showed that the majority of LDCs imposed daily balancing, along with end-of-month cash-outs. Some instances of monthly balancing involved large managed pools of Residential and small Commercial customers in state jurisdictions and LDC service territories where gas commodity unbundling under "customer choice" programs applied to all customer classes of service.

3.1.2 Balancing tolerance thresholds

A balancing tolerance threshold, typically expressed as +/- a percentage of Maximum Daily Quantity ("MDQ" – but also in some cases as a fixed volume – beyond which imbalance quantities are subject to penalties. The percentage is typically applied to a customer's MDQ that they have under contract with a Marketer. Among LDCs examined by Atrium, 5% was the most common dead band; however, the threshold variance ranged from 0% (under certain restrictive conditions) to 15%. Atrium found one instance of a dead band that could be set to various levels for a fee; and reverted to 0% if the transportation customer or Marketer opted out.

3.1.3 Operational flow orders or other restrictions of transportation deliveries

Transportation customers are generally allowed to accrue imbalances on an interruptible basis. An LDC can unilaterally restrict overtake or undertakes on a given day if system conditions require them to do so. To facilitate this, LDCs often have provisions that set different balancing rules and cash-out mechanisms when an operational flow order ("OFO") is declared. Typically, during an OFO, an LDC will be less likely to allow customers to create new imbalances and will restrict access to some services such as imbalance trading or netting. Cash-out terms and penalties will increase, or imbalances will be subject to more stringent dead bands.

3.1.4 Use of premium or discounted gas price-based balancing tiers

Levels of imbalance charges typically increase based on the size of the imbalance incurred. Among LDCs that structured their imbalance fees in this manner, three of them had two tiers of imbalance fees, and four had two to five tiers of fees.

3.1.5 LDC provided transportation balancing services

Many LDCs offer customers various balancing-related services, such as imbalance trading or imbalance aggregation. Imbalance trading allows customers to arrange trades among themselves where a customer with an overtake position, for example, finds another customer with an undertake position on the same system and "trades" the imbalance so that the imbalances net themselves to zero. Similarly, other services allow a customer to net overtake and undertake positions among a customer's different delivery points or pooling points listed in

its transportation contract. Other LDCs offer more elaborate services for a fee, such as a balancing account that allows them to use system storage to inject and withdraw quantities to maintain a zero imbalance when imbalance trading services are insufficient to alleviate a customer's imbalance. This last temporary storage service is analogous to FEI's Imbalance Return service.

4 Industry Survey of Specific Aspects of Transportation Balancing

4.1 Comparison of LDC Balancing Provisions

Atrium asked North American LDCs the following five survey questions regarding their transportation balancing tariffed rules and other non-tariffed balancing related policies:

1. What is your company's gas delivery nomination process and schedule for third-party gas supply Marketers or transportation customers (Monthly, Daily, Intra-day)?
2. What customer usage data does your company provide to third-party Marketers to support their ability to understand their customers' daily load profile for the purpose of accurately nominating gas deliveries? What frequency is this data provided (e.g., real time via electronic portal, estimated one/two days before the gas day, actuals day after, once/twice a day, none as it is directly provided by the Marketer's customer)?
3. What rules govern the issuance of operational restrictions or flow orders? How much flexibility does your company have when determining the need for and frequency of operational restrictions (e.g., reduction or elimination of imbalances) or upstream supply restrictions (e.g., hold to pre-authorized level)?
4. Are there any special balancing accommodations or short-term (i.e., within the month) storage related services (parking/lending) offered to shippers? If so, are there limitations as to the number of days or maximum/minimum levels of daily quantities to qualify for the storage related services?
5. Has your company received any requests recently from Marketers or transportation customers for modifications related to your balancing rules, nomination procedures, access to usage data or other transportation related services? If so, please describe the nature of these requests.

4.1.1 Question 1 – LDC's Gas Delivery Nomination Process and Schedule

Contextual Information Related to the Question

This topic was of general interest to FEI in comparing the administrative activities and communication channels of other gas LDCs related to the process of receiving, validating, and processing nominations of supply deliveries from shippers and/or shipper agents.

Representative information from Respondents

Individual customer shippers or shipper agents on LDC distribution systems generally nominate daily. Nominating parties can make changes each cycle when necessary. Marketers provide nominations prior to the LDC's timely deadline and LDCs are flexible to nomination changes up to the timely deadline. For short notice or intra-day nomination changes, some LDCs require

that Marketers check via Instant Message ("IM") or phone to verify the changes were received and executed.

The following is a representative example from Manitoba Hydro – Centra Gas Manitoba:

> Transportation Service customers or their nominating agents provide a notification to Centra Gas in the form of an email and spreadsheet attachment that details the customer's forecast consumption, the amount of supply being nominated to Centra's delivery area, as well as any balancing adjustment being made to their account. These notifications may be provided to the LDC at any of the timely, evening, ID1, ID2, or ID3 nomination windows, and must match the supply nominated to Centra's delivery area on the pipeline's scheduling system.

Atrium's Findings and Conclusions

Daily nominations on LDC distribution systems are the industry standard, within the guidelines required by the upstream pipeline(s) to meet the scheduled confirmation deadlines of each of the upstream pipelines connected to the LDC distribution system. The availability of intra-day nominations or changes generally follow the corresponding upstream pipeline requirements. The LDC then confirms changes on every nominating cycle.

FEI's nomination process via the Web Information and Nomination System ("WINS"), or other method approved by FEI, prior to the Timely Nomination Cycle on each Day, is consistent with the industry standard. Marketers provide notice to FortisBC Energy on the WINS of adjustments to the requested quantity for the Day commencing in approximately 24 hours. FEI will notify the Marketer on WINS (or other approved method) if the authorized quantity is less than the requested quantity.

4.1.2 Question 2 – Impact of Usage Measurement on Forecasting Demand

Contextual Information Related to the Question

Feedback was provided by shipper/agents as part of stakeholder engagement interviews conducted by FEI. One of the issues raised and pursued was that usage data provided by FEI (WINS and SCADA) is insufficient to forecast demand. FEI provides customer usage data in the WINS nomination system, whereby the previous day is an estimate, and the second previous day is actual metered consumption. The assertion is that this delay in measurement is a hardship for the shipper/agents to properly forecast demand.

Representative information from Respondents

The majority of respondents indicated they provided actual daily usage at various intervals, which would be within a set number of hours (typically 24 – 48 hours) after the close of the gas day. Some LDCs provide usage estimates within hours of the end of the gas day via Electronic Bulletin Board. To gain access to hourly usage data in real-time, some transportation customers

install their own equipment on-site. In some instances, estimates or load profiles are provided for forecasting purposes by subscription for a fee. An example of a fee-based service, estimated daily use for the next five days was provided on the day before each gas day, based on the most recent forecast of heating degree days.[5] The advent of automated metering infrastructure in some jurisdictions and LDCs has made faster turn-around of daily usage data possible for transportation customers and their supplier agents.

Atrium's Findings and Conclusions

Actual daily usage data provided within 24 – 48 hours of the close of the gas day, by various electronic methods, is the natural gas utility industry standard. FEI's provision of transportation customer usage data via its WINS and SCADA systems aligns with industry norms.

Based on Atrium's research of gas LDCs practices with respect to the provision of customer usage data, and the results of Atrium's quantitative analysis, we found no evidence to support the notion that FEI's current measurement and usage information system is an impediment to Marketer's ability to provide reasonable nominations for their customers under similar transportation models. The relatively insignificant levels of imbalance charges incurred by Marketers suggest that the current measurement data provided by FEI are sufficient.

4.1.3 Question 3 – Rules Governing the Issuance of Operational Restrictions or Flow Orders

Contextual Information Related to the Question

Currently, FEI has no specific tariff rules defining specific pipeline system operating conditions and circumstances that govern the imposition of operational restrictions (e.g., reduction or elimination of Imbalance Return) or supply restrictions (e.g., hold to authorize). Issues raised during the stakeholder engagement interviews allege FEI has become increasingly strict in imposing operational restrictions for a variety of reasons.

Representative information from Respondents

The common LDC practice, with respect to Operational Flow Orders, is to follow the upstream pipe's OFO restrictions on their system. Most LDCs have tariff language reserving the right to issue flow orders, restrictions, and entitlements "at their sole discretion."

Some LDCs do provide varying levels of guidance in the "Terms and Conditions" section of the Transportation Service tariffs regarding the restriction process and defining the conditions under which an operational restriction will likely occur. Example of tariff language: "Critical Day"

[5] This service was for Suppliers serving Residential and Small Commercial customer groups under an Aggregation Service. As of May 1, 2022, estimated daily use will no longer be provided. Illinois Commerce Commission Order in Northern Illinois Gas Company Docket 20-0606, May 13, 2021.

> *"Declared by the Company whenever any of the following five anticipated conditions occurs: (a) when the Company experiences failure of Transmission, Storage or Distribution facilities; (b) when Transmission system pressures or other unusual conditions jeopardize the operation of the system; (c) Company's pipeline and supply resources are being used at or near maximum deliverability; (d) when any of the Company's [upstream] transporting pipelines or suppliers call the equivalent of a Critical Day; or (e) when the Company is unable to fulfill its firm contractual obligations or otherwise when necessary to maintain the overall operational integrity of all or a portion of the Company's system."* [Northern Illinois Gas Company]

Atrium's Findings and Conclusions

Formalizing and documenting tariff rules within the tariff governing the imposition of operational or supply restrictions should not be viewed as overly restrictive or "tying the hands" of the LDC.

Tariff rules should provide the LDC with the flexibility to respond as needed to various situations that will occur that require decisive action to preserve reliable operation of its distribution system. Notice by the LDC of operational or supply restrictions provides guidance to transportation customers' shipper/agents. It is the responsibility of the shipper/agents to anticipate, recognize, and respond to the most common weather-related, upstream pipeline, and regional gas market conditions that could warrant an operational or supply restriction.

Defining specific operational conditions and circumstances in a tariff, under which restrictions are to be imposed on shippers, are few and not a common industry practice. The purpose behind non-prescriptive tariff rules that provide LDCs the right to issue flow orders, restrictions, and entitlements "at their discretion" is to ensure the integrity of the distribution system is preserved and customers are protected from service interruption. Atrium finds that FEI's process for identifying the conditions on its pipeline system under which an operational or supply restriction is warranted conforms with common industry practices.

4.1.4 Question 4 – Special Balancing Accommodations or Short-term Storage Services

Contextual Information Related to the Question

As part of the reporting requirements from the BCUC's Final Decision in the rate design proceeding, FEI was directed to report on the effectiveness of imbalance return as a tool for Shippers/Shipper Agents to manage excess inventory including discussion of any modifications made to the allocation methodology in response to changes in demand for imbalance return after the balancing rule changes are implemented.

Representative information from Respondents

Most LDCs with access to storage resources require shippers to subscribe to fee-based balancing, short-duration parking/lending, or storage services. Some examples are listed below:

- Mandatory Storage Capacity Assignment Program: Under this program, the LDC releases a "piece of the pie." The Company then allows "trading," which customers/Marketers use to trade across days to get them into their balance limitations.
- No Notice Transportation Service: This is a form of balancing service provided from the customer's Storage Service Agreement (SSA). The shipper's SSA service is utilized to balance supply and demand, and to adjust shipper's nominations.
- System Balancing Charge: Under this balancing program, a volumetric rate per unit [Dth / Mcf] is charged on all delivered volumes.

Where LDCs do not have storage service, some Park and Loan services are provided by upstream interstate or intrastate pipelines.

Atrium's Findings and Conclusions

Most LDCs with access to storage resources require shippers to subscribe to fee-based balancing, short-duration parking/lending, or storage services.

FEI's Imbalance Return meets or exceeds comparable industry practices as a no-fee, short-duration, storage service that provides Marketers with day-to-day balancing flexibility to address supply/demand variability of their customers.

4.1.5 Question 5 - Requests for Modifications Related to Balancing Rules

Contextual Information Related to the Question

Feedback from some shipper/agents suggests that FEI's current transportation Imbalance Return service provisions benefit larger shipper/agent customer groups with corresponding large daily demands over the shipper/agents with smaller customer groups with typically small daily demands. A request has been received that FEI amend the allocation of Imbalance Return whereby if the percentage of demand for the service is under a specified threshold, a minimum level or base amount of IR should be allowed.

Atrium's Findings and Conclusions

Atrium found no examples of other gas LDCs that provide accommodations within their fee-based gas storage related (e.g., Parking/Lending) services, which are on par with FEI's Imbalance Return service, for shippers with small daily demands. Such services tend to require a minimum level of daily demand to qualify.

However, it is not unreasonable for FEI to provide the described concession in its IR service for shipper/agents serving customer groups with small daily demands if it can be accommodated within the IR structure, is not detrimental to other Marketers, and is not administratively burdensome.

5 Concluding Remarks

Historically, FEI had some of the more generous transportation balancing tariff rules in the natural gas LDC industry, while providing appropriate performance incentives for Marketers. Members of Atrium's review team assisted FEI with revisions to its Transportation Service Model ("the Model"), as part of the 2016 Rate Design Application. These revisions were not a wholesale overhaul of the Model, but rather intended to progress toward industry standards while protecting the integrity of the long-standing Model. As stated earlier, Transportation balancing provisions vary widely across LDCs and are not standardized in a "one size fits all" form, allowing LDCs to develop balancing rules that reflect their unique load profiles and geographic location on interstate or interprovincial pipeline systems. FEI's balancing rules reflect the regional attributes of its interconnected upstream pipelines and gas market environment. Atrium finds the revised balancing rules of FEI to be reasonable and working as originally intended, as the metrics in our analyses have shown.

Appendix B
CONSULTATION SUMMARY

From: [redacted]
To: [redacted]
Cc: FortisBC Regulatory Affairs-Gas; [redacted]
Subject: Invitation to Participate in the Review of the Transportation Service Model
Date: Thursday, March 25, 2021 11:21:42 AM
Attachments: Notice to Marketers for Stakeholder Sessions.pdf

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Good day,

Please see the attached notice and invitation to participate in a review of FortisBC's Transportation Service Model.

Feel free to pass this notice to others in your organization as you see fit.

Should you have any questions, please let me know.

Regards,

Stephanie Salbach
Transportation Services Manager
FortisBC Energy Inc.
[redacted]
Hotline: 604-592-7799

FortisBC Energy Inc.
16705 Fraser Highway
Surrey, B.C. V4N 0E8
www.fortisbc.com

Attention: Gas Marketers/Shipper Agents

Re: Invitation to Participate in the Review of the Transportation Service Model

FortisBC Energy Inc. (FEI) is inviting Marketers/Shipper Agents representing customers taking service under FEI's Transportation Service Model through Rate Schedules, 22, 22A, 22B, 23, 25, 27 and 46 to participate in upcoming workshop sessions intended to gather feedback on the Transportation Service Model. All Marketers are encouraged to participate.

As most of you are aware, in the 2016 Rate Design proceeding, the British Columbia Utilities Commission (BCUC) approved amendments to the Transportation Service Model by its Decision and Order G-135-18 dated July 20, 2018. The amendments related to customer balancing rules, implementation of daily balancing for all transportation service customers, a reduction of the daily balancing tolerance and changes to daily balancing charges for gas supply shortfalls. For customers located in the Lower Mainland (including Vancouver Island) and the Interior, the approved changes came into affect on November 1, 2018 and for customers in the Columbia and East Kootenay regions, on November 1, 2019.

The decision also directed FEI to file a written report with the BCUC on by June 1, 2020 on transportation service balancing (Report) assessing the impact of the changes by June 1, 2022. FEI was encouraged to engage in a stakeholder review in the preparation of the report. The decision directed that the Report include an assessment and discussion of the following:

- Impact of new balancing rules on the use of core resources including both changes to variable costs of balancing the system to accommodate transportation service and changes to fixed costs arising from a need to contract midstream resources differently;
- Effectiveness of imbalance return as a tool for Shippers/Shipper Agents to manage excess inventory including discussion of any modifications made to the allocation methodology in response to changes in demand for imbalance return after the balancing rule changes are implemented;
- Whether there should be further tightening of tolerances for under-supply;
- Whether it is necessary to implement tolerances and associated charges for over-supply; and
- Whether the balancing charges appropriately recover the costs of providing balancing to transportation service customers and provide sufficient incentive to transportation service customers to balance their supply and demand.

In addition, on August 10, 2020 in Order G-210-20[1], FEI was directed to include the following topics in its Report:

[1] https://www.bcuc.com/Documents/Proceedings/2020/DOC_58897_G-210-20-FEI-BCGMC-Complaint-Reasons.pdf.

- Nature, timing and adequacy of information provided to shipper agents to manage gas supply resources;
- Administration of inter-customer group balancing and transparency of inter-customer group balancing rules; and
- FEI's criteria for curtailment of inventory returns to shipper agents.

The stakeholder review will take place in three web-based virtual workshops planned to be held in September 2021, January 2022 and April 2022. BCUC staff will be invited to attend. Prior to the first workshop, FEI will host conference calls with each Marketer individually to discuss and document feedback on the issues to be addressed in the Report as well as any other issues Marketers may raise. FEI will begin arranging these conference calls in spring 2021. Prior to the summer, FEI will circulate a discussion document summarizing feedback from the conference calls with Marketers, which will form the basis of discussions during the first workshop in September. Following the September session, FEI will prepare a draft report for circulation to all Marketers by November, which will be reviewed at the second workshop in January 2022. Based on additional discussion and feedback from second workshop, FEI will update the report by March end and will recirculate a final draft for review at third workshop in April 2022.

We look forward to working with all stakeholders in the preparation and filing of the Report.

If you have any questions or wish to schedule your initial conference call and confirm your participation in the stakeholder engagement process, please contact Stephanie Salbach at [redacted] or by email to [redacted] Feel free to invite other members within your organization as you see fit to participate in this process.

Sincerely,

FORTISBC ENERGY INC.

Shawn Hill
Director, Energy Supply

cc (email only): BCUC

From: [redacted]
To: [redacted]
Cc: FortisBC Regulatory Affairs-Gas; [redacted]
Subject: Transportation Service Model Review Update
Date: Friday, July 16, 2021 1:34:17 PM
Attachments: FEI Transport Model Review Update.pdf
Summary Marketer Feedback.pdf

Good afternoon,

Please see the attached update on the Transportation Model Review and, the summary of feedback provided by Shipper Agents/Marketers from individual conference calls over the last few months. Thank you for your time and participation.

Regards,

Stephanie Salbach
Transportation Services Manager
FortisBC Energy Inc.
[redacted]
Hotline: 604-592-7799

FortisBC Energy Inc.
16705 Fraser Highway
Surrey, B.C. V4N 0E8
www.fortisbc.com

Attention: Gas Marketers/Shipper Agents

Re: Update on Stakeholder Engagement for the Transportation Service Model Review

Over the last few months, FortisBC Energy Inc. (FEI) has conducted 11 individual meetings with Marketers/Shipper Agents (Shipper Agents) representing customers taking service under FEI's Transportation Service Model through Rate Schedules 22, 22A, 22B, 23, 25, 27 and 46 to gather feedback on the Transportation Service Model. The meetings mark the first step in gaining insight as to how the model is working under the approved amendments to the Transportation Service Model through the British Columbia Utilities Commission (BCUC) Decision and Order G-135-18 in FEI's 2016 Rate Design Application (RDA Decision), which largely came into affect November 1, 2018. The approved amendments related primarily to customer balancing rules, specifically the implementation of daily balancing for all transportation service customers, a reduction to the daily balancing tolerance, and changes to the daily balancing charges for gas supply shortfalls.

FEI has attached a summary of feedback and requests received from Shipper Agents to date under each of the directives in the RDA Decision. The documented feedback will be used as a basis to generate discussion and consideration for possible future changes to the Transportation Service Model.

As shown in the summary, there are multiple requests for changes to the model within each of the discussion sections. While all items will be given fair and reasonable consideration, in order to prioritize potential changes that each Shipper Agent feels would be most important for FEI to investigate and evaluate, FEI requests that each Shipper Agent provide FEI with a ranked short-list of their top five requests from all of those identified in the summary. This prioritized list from each Shipper Agent will help guide FEI in its evaluation of potential system and process changes that may be considered as well as investigating both the lead-time required for such changes and the associated costs. FEI will include all of these factors into the feasibility of proposing potential changes, if any, to the Transportation Service Model. Please provide your top-five requests to FEI by email to Stephanie Salbach by email to: [redacted] Friday, August 6, 2021.

Regarding next steps, FEI will host the first workshop in September at which time we will review all requests as a group including the aggregation of each Marketer's top-five requests. FEI will present an assessment of the feasibility of the requests in terms of development time and costs involved for further consideration. For that workshop, we will ask that Shipper Agents come prepared to participate in a general discussion regarding the group's experience operating under the amended balancing rules, as well as their prioritized requests under each of the BCUC's directives.

FEI would like to thank all of the Shipper Agent participants for taking the time to meet with FEI and for the candid feedback provided. If there are any questions or a need for clarification, please email or call Stephanie directly at [redacted].

Sincerely,

FORTISBC ENERGY INC.

Shawn Hill
Director, Energy Supply

cc (email only): BCUC Commission Secretary

BCUC Directive	Feedback Summary	Requests
Impact of new balancing rules on the use of core resources including both changes to variable costs of balancing the system to accommodate transportation service and changes to fixed costs arising from a need to contract midstream resources differently;	• FEI is analyzing the use of core resources including variable and fixed costs to determine the impact from the new balancing rules.	TBD
Effectiveness of imbalance return (IR) as a tool for Shippers/Shipper Agents to manage excess inventory including discussion of any modifications made to the allocation methodology in response to changes in demand for imbalance return after the balancing rule changes are implemented;	• General feedback indicates the revised allocation is fair, reasonable and provides certainty for planning. • The allocation puts everyone on an equal playing field. • Helpful to manage load, and load swings. • When IR is set to zero, it is difficult to balance within the 10% tolerance. • Questions asking for a better understanding of how FEI manages this service; the process and predictability when IR is reduced or eliminated in order to prepare for these restrictions. • Portion allocated to Marketer groups with smaller customer demand is small.	1. FEI to release a higher amount of IR as a whole. 2. Mechanism to allow greater IR to specific Marketer(s) by request. 3. Reallocation of unutilized service to other interested Marketers. 4. Minimum allocation of IR to groups with smaller demand. 5. Modify the allocation to incorporate a volatility/load factor. 6. Make IR available during Hold to Authorize (HTA)/Supply restriction periods.
Whether there should be further tightening of tolerances for under-supply;	• No marketer in favour of further tightening. • Many did not want the tolerance change to 10% in the first place. • Some Marketers indicate they are managing under the 10% tolerance and others express difficulty especially during cold weather or customer load volatility. • If a further tightening is imposed, look for models that provide more timely information or certainty such as a delivery requirement.	7. Return to the 20% tolerance. 8. FEI to offer a different percentage of balancing tolerance by season or during specific times of year (i.e. shoulder months) when operational conditions allow.

BCUC Directive	Feedback Summary	Requests
Whether it is necessary to implement tolerances and associated charges for over-supply;	• Nearly all Marketers oppose an over-supply tolerance and associated charges, especially those with customers having volatile demand. • One Marketer is open to limits during normal operational circumstances, but not during HTA periods. • If specific Marketers are over-delivering, exercise the tariff to withhold inventory.	9. FEI to withhold inventory/pack for specific marketers that are over-delivering as opposed to restricting the service for all.
Whether the balancing charges appropriately recover the costs of providing balancing to transportation service customers and provide sufficient incentive to transportation service customers to balance their supply and demand.	• FEI is analyzing the volume of recovered charges.	TBD
Whether the balancing charges appropriately recover the costs of providing balancing to transportation service customers and provide sufficient incentive to transportation service customers to balance their supply and demand.	• Generally, Marketers indicate the incremental charge ($0.25/GJ) provides incentive to balance and avoid the charge. • Some have indicated the charge does not factor into their business planning.	
Nature, timing and adequacy of information provided to shipper agents to manage gas supply resources;	• Some Marketers indicate the data available to them via WINS and SCADA is adequate and sufficient to balance. • Some Marketers indicate WINS data is insufficient especially when restrictions are in place. • The two-day lag in WINS is not helpful, and challenging to use as a forecast. • More timely/real-time data would be useful.	10. FEI to investigate better measurement technology available in the industry. 11. FEI to provide an intra-day estimate in WINS. 12. FEI to improve data quality of the previous day estimate in WINS. 13. FEI to provide a daily delivery requirement during normal and/or HTA/supply restriction periods.

BCUC Directive	Feedback Summary	Requests
Administration of inter-customer group balancing and transparency of inter-customer group balancing rules;	• Grateful for the trades to reduce UOR charges • Continue process going forward. • Remain outside the tariff. • Clarify policy/practice and communicate to marketer community.	14. Automate the process and/or a bulletin board format. 15. Continue process as is (status quo). 16. Proposed a utility super group netting exercise, where if as a whole, all shippers combined deliver sufficient supply to meet demand there should be no penalty.
FEI's criteria for curtailment of inventory returns to shipper agents	• Mix of feedback with Marketers that understand why FEI limits this service and others who question FEI' decisions to limit. • Marketers request a better understanding of FEI's considerations/parameters to enable better planning. • FEI encouraged to provide as much notice as possible when limiting this service.	17. Days when Imbalance return is reduced/eliminated flag the line item in the nomination screen. 18. FEI to provide a "status update" for operational changes (weather/maintenance/ interconnecting pipeline status, etc.) when reducing IR.
Other: Daily Balancing Charges - Interior	• The Lower Mainland has a single source of supply from Westcoast (Sumas). • Source of supply for the Interior is different, Station 2. • Penalty for daily balancing charges across all rate schedules is currently based on the Sumas price. • Should have a different penalty rate for customers in the Interior.	19. Amend Rate 22A Daily Balancing Gas charge to a Station 2 price.
Other: Timely Cycle Deadline	• Cycle deadline (Timely). Westcoast offers flexibility to extend the deadline.	20. FEI to allow Timely cycle deadline flexibility.
Other: Apply Penalties to Specific Marketers	• Utility's approach is to treat everyone the same, which is a mistake. • FEI is encouraged to communicate with the BCUC, and report problems with specific marketers.	21. FEI to apply penalties to the entities that are causing core market problems.

BCUC Directive	Feedback Summary	Requests
Other: Hold to Authorize (HTA) /Supply Restrictions	• Marketers request a better understanding of FEI's considerations/parameters for issuing a HTA to enable better planning.	22. FEI to disclose the parameters and conditions for issuing HTA/Supply restrictions. 23. FEI to apply locational/regional HTA – not apply across all regions.

Request No.	Request Description	Marketer Ranking	Notes
7.	Return to the 20% tolerance.	1	
6.	Make IR available during Hold to Authorize (HTA)/Supply restriction periods.	2	
2.	Mechanism to allow greater IR to specific Marketer(s) by request.	3	Received same number of votes
3.	Reallocation of unutilized service to other interested Marketers.		
14.	Automate the process and/or a bulletin board format.	4	
1.	FEI to release a higher amount of IR as a whole.	5	Received same number of votes
11.	FEI to provide an intra-day estimate in WINS.		
12.	FEI to improve data quality of the previous day estimate in WINS.		
19.	Amend Rate 22A Daily Balancing Gas charge to a Station 2 price.		
4.	Minimum allocation of IR to groups with smaller demand.	6	Received same number of votes
13.	FEI to provide a daily delivery requirement during normal and/or HTA/supply restriction periods.		
16.	Proposed a utility super group netting exercise, where if as a whole, all shippers combined deliver sufficient supply to meet demand there should be no penalty.		
20.	FEI to allow Timely cycle deadline flexibility.		
21.	FEI to apply penalties to the entities that are causing core market problems.		
23.	FEI to apply locational/regional HTA – not apply across all regions.		
8.	FEI to offer a different percentage of balancing tolerance by season or during specific times of year (i.e. shoulder months) when operational conditions allow.	7	Received same number of votes
10.	FEI to investigate better measurement technology available in the industry.		
17.	Days when Imbalance return is reduced/eliminated flag the line item in the nomination screen.		
24.	Include real time SCADA information prior to the intra-day cycles	8	Requests identified after initial Marketer Summary prepared
25.	Create marketer dashboards to provide collected data snapshots of marketer group information		
26.	Provide clear information, timelines, priorities and other information related to curtailment		
27.	Tariff be structured so FEI may curtail/HTA only when absolutely necessary		
28.	Clear and consistent criteria for the return of HTA gas inventory and a mechanism for returning any premium value of that inventory, and specifically that FEI publish its criteria so customer and marketers can understand how FEI will make its decisions it's criteria so customer and marketers can understand how FEI will make its decisions		
29.	FEI to adhere to the Gas Marketers Code of Conduct		

Request No.	Request Description	Marketer Ranking	Notes
5.	Modify the allocation to incorporate a volatility/load factor.	0	not selected by Marketers when ranking
9.	FEI to withhold inventory/pack for specific marketers that are over-delivering as opposed to restricting the service for all.		
15.	Continue process as is (status quo).		
18.	FEI to provide a “status update” for operational changes (weather/maintenance/ interconnecting pipeline status, etc.) when reducing IR.		
22.	FEI to disclose the parameters and conditions for issuing HTA/Supply restrictions.		

Stakeholder Session to Review FEI's Transportation Service Model

September 2021

Stephanie Salbach, Transportation Services Manager

September 22, 2021

Today's Agenda

- Primary objective – Hear from Stakeholders
- Brief overview of the approved changes from FEI's 2016 Rate Design Application
- Review the RDA Decision Directives
- Review of the Stakeholder engagement to date
- Next steps – report circulation and workshop
- Direct Energy Presentation – James Fredricksen and Nicole Black
- Roundtable discussion

Rate Design Approved Changes– effective Nov 2018

Main asks to apply to all transportation customers' Rate Schedules/Tariffs proposed in the Application:

- Eliminate monthly balancing - daily balancing for all transportation customers.
- Reduce the daily balancing tolerance from 20 percent to 10 percent and introduce a balancing charge of $0.25/ gigajoule (GJ) for gas supply shortfalls within a 10 to 20 percent tolerance level.

July 20, 2018 - Decision Issued on the 2016 Rate Design Application (Order G-135-18)

https://www.ordersdecisions.bcuc.com/bcuc/decisions/en/item/316310/index.do

Imbalance Return – consultative process

Directives and Report Filing by June 2022

RDA Transportation Service Directives

Report to include:

- Impact of new balancing rules on the use of core resources
- Effectiveness of Imbalance return
- Evaluate further tightening balancing tolerance (>10%)
- Evaluate an over-supply tolerance
- Evaluate if the balancing charges have provided sufficient incentive to balance and if charges are sufficient for cost recoveries
- Nature, timing and adequacy of data/information
- Administration of inter-customer group balancing
- FEI's criteria for curtailment of inventory returns

Engage in Stakeholder feedback

Additional Subjects raised

- Daily Balancing Charges – different Interior rate
- Timely cycle deadline
- Report *bad apples* to the BCUC and Apply penalties to specific Marketers
- Hold to Authorize/Supply Restriction and Imbalance Return

Requests for Changes to the Model

23 Requests – streamlined to top five

Request No.	Request Description	Marketer Ranking	Notes
7.	Return to the 20% tolerance.	1	
6.	Make IR available during Hold to Authorize (HTA)/Supply restriction periods.	2	
2.	Mechanism to allow greater IR to specific Marketer(s) by request.	3	Received same number of votes
3.	Reallocation of unutilized service to other interested Marketers.		
14.	Automate the process and/or a bulletin board format.	4	
1.	FEI to release a higher amount of IR as a whole.	5	Received same number of votes
11.	FEI to provide an intra-day estimate in WINS.		
12.	FEI to improve data quality of the previous day estimate in WINS.		
19.	Amend Rate 22A Daily Balancing Gas charge to a Station 2 price.		

September 2021 forward

September meeting expectations

- Listen and discuss the model as a group

Next Steps

- Evaluate feasibility of changes
- Draft of the Report early in 2022

Direct Energy

FortisBC Transportation Service

Stakeholder Session
September 22, 2021

Challenges

- The nature of this market makes restrictions on daily balancing thresholds hard to manage.
- The market trades on a next day basis but the majority of the consumption window occurs outside of the trading cycle.
- Hold to Authorize events have zero tolerance and extreme penalties that without better visibility hold Marketers to a challenging standard by the utility.
- Offering some flexibility with greater Imbalance Return, Marketer inventory transactions, and increased tolerances can help mitigate these challenges.

Proposed Improvements

- One idea is to allow Marketers to balance their daily accounts retrospectively by dealing those volumes with other Marketers once the meters show actual consumption.
- This would mitigate some of the price risk associated with buying supply before knowing burns.
- Currently, over-supplying a Marketer account during restricted Imbalance Return (typically initiating a higher price environment) means Marketers are not able to liquidate excess inventory until prices come down, exposing Marketers to unnecessary price risk.
- Retrospective balancing between Marketers should not impact the system or the utility.

Proposed Improvements

- In Alberta, through co-operation between the Marketers and the utility, ATCO Gas has moved from “in kind” to financial gas load settlement in accordance with AUC Decision 26013-D01-2021 issued March 1, 2021:

  12. The Commission finds that the current “in kind” settlement process is vulnerable to price differentials due to the time lag between the initial gas allocation from ATCO Gas to retailers and the settlement adjustment. DEML and ENMAX both raised concerns about the unintended consequences of the current “in kind” settlement process; DERS demonstrated that the estimated harm of the current gas volume settlement amounted to nearly $1 million in losses over the course of two months and raised concerns about how these fluctuations may affect its customers.

Proposed Improvements

- Excerpts from AUC Decision 26013-D01-2021:

  13. The costs of the current settlement, due to recently increased market price volatility, have been significant to retailers. Moreover, there is no expected adverse impact from the proposed change on end-use customers. Rather, end-use customers may benefit from improved operation stability of the retailers. Based on DERS' analysis, the method should significantly reduce the cost variations by aligning monthly cash settlement pricing to match the daily imbalance with the daily market price.

  14. The Commission agrees that the new settlement process will eliminate the price fluctuations between the day-of-use price and the prices used for each of the settlement intervals and supports its implementation. Therefore, the Commission approves the new settlement process, the associated changes to ATCO Gas's Retailer Terms and Conditions for Gas Distribution Service and the removal of the requirement for its imbalance window to match the transmission balance zone of NGTL to effect this change.

- ATCO Gas is indifferent to the change as the cost of load balancing is carried in a deferral account.

Thank you

For further information, please contact:

Stephanie Salbach, Transportation Service Manager

[redacted]

Cell: [redacted]

Find FortisBC at:
fortisbc.com
talkingenergy.ca
604-576-7000

Follow us @**fortisbc**

Attendees for the September 22/21 Stakeholder Session - Transportation Services Workshop

Company	Name	In-Meeting Duration	First Join time	Last Leave time	Role
?	7787730785	1h 24m 6s	8:55 AM	10:19 AM	Attendee
Absolute Energy	Susan Juilfs	1h 21m 13s	8:57 AM	10:19 AM	Attendee
Absolute Energy	Kirby Morrow	1h 18m 31s	9:00 AM	10:19 AM	Attendee
Absolute Energy	Cory Fung	1h 5m 33s	9:13 AM	10:19 AM	Attendee
Access Gas	Patti Andersen	1h 24m 26s	8:54 AM	10:19 AM	Attendee
Access Gas	Sheri Clemons	1h 22m 32s	8:56 AM	10:19 AM	Attendee
Access Gas	James Bartlett	1h 3m 27s	8:59 AM	10:03 AM	Attendee
Atrium Economics	Ron Amen	1h 23m 38s	8:55 AM	10:19 AM	Attendee
Atrium Economics	John Taylor	1h 19m 42s	8:59 AM	10:19 AM	Attendee
Atrium Economics	Chris Hutchinson	1h 18m 36s	9:00 AM	10:19 AM	Attendee
BCSEA	Bill Andrews	1h 21m 16s	8:57 AM	10:19 AM	Attendee
BCUC	O'Neal, Joshua	1h 18m 38s	9:00 AM	10:19 AM	Attendee
BCUC	Lavoie, Ted	1h 18m 28s	9:00 AM	10:19 AM	Attendee
BCUC	Vancise, Billy	1h 16m 48s	9:02 AM	10:19 AM	Attendee
BCUC	Janet Rhodes	1h 14m 35s	9:04 AM	10:19 AM	Attendee
BCUC	Kehoe, Aidan	49m 25s	9:08 AM	9:58 AM	Attendee
CEC	David Craig	1h 24m 21s	8:54 AM	10:19 AM	Attendee
Direct Energy	Nicole Black	1h 19m 47s	8:59 AM	10:19 AM	Attendee
Direct Energy	James Fredricksen	1h 16m 26s	9:02 AM	10:19 AM	Attendee
Easy Energy	Tom Dixon	1h 14m 8s	9:05 AM	10:19 AM	Attendee
FortisBC	Bevacqua, Ilva	1h 24m 37s	8:54 AM	10:19 AM	Presenter
FortisBC	Salbach, Stephanie	1h 22m 22s	8:56 AM	10:19 AM	Organizer
FortisBC	Hodgins, Kevin	1h 21m 45s	8:57 AM	10:19 AM	Presenter
FortisBC	Hill, Shawn	1h 21m 10s	8:58 AM	10:19 AM	Presenter
FortisBC	Gill, Manpreet	1h 20m 24s	8:58 AM	10:19 AM	Presenter
FortisBC	Yasinchuk, Matt	1h 18m 56s	9:00 AM	10:19 AM	Presenter
IGI Resources	Johnston, Kim	1h 20m 51s	8:58 AM	10:19 AM	Attendee
IGI Resources	Renfro, Wendy L	1h 18m 43s	9:00 AM	10:19 AM	Attendee
Macquarie	Gerilynne Pickett	1h 17m 42s	9:01 AM	10:19 AM	Attendee
RCIA	Peter Helland	56m 48s	9:22 AM	10:19 AM	Attendee
Sentinel	Jim Langley	1h 8m 50s	9:10 AM	10:19 AM	Attendee
Shell Energy	Gill, Blake	1h 18m 17s	9:00 AM	10:19 AM	Attendee

Shell Energy	Mccordic, Mary	1h 16m 3s	9:03 AM	10:19 AM	Attendee
Shell Energy	Foster, Danielle	1h 36s	9:18 AM	10:19 AM	Attendee
Tidewater Midstream	Mahdis Sadeghi	1h 19m 10s	8:59 AM	10:19 AM	Attendee

FEI's May 2022 Stakeholder Session

Review of Directives and Transportation Marketer Requests

Stephanie Salbach, Transportation Services Manager, FortisBC Energy Inc.

Ron Amen, Managing Partner, Atrium Economics

May 10, 2022

Today's Session

- 2016 Rate Design Application
- Order G-135-18 – BCUC Directives; Additional topics Order G-210-20
- Stakeholder Engagement
- Atrium Economics Assessment
- Review the Directives, Marketer Feedback and FEI Assessment

Background – Transportation Service Changes

- 2016 Rate Design Application – Approved Changes to the Transportation Model
- Directives from the Decision – Report filing
- Stakeholder engagement sessions
- Presentation from Atrium Economics

FEI General Comments

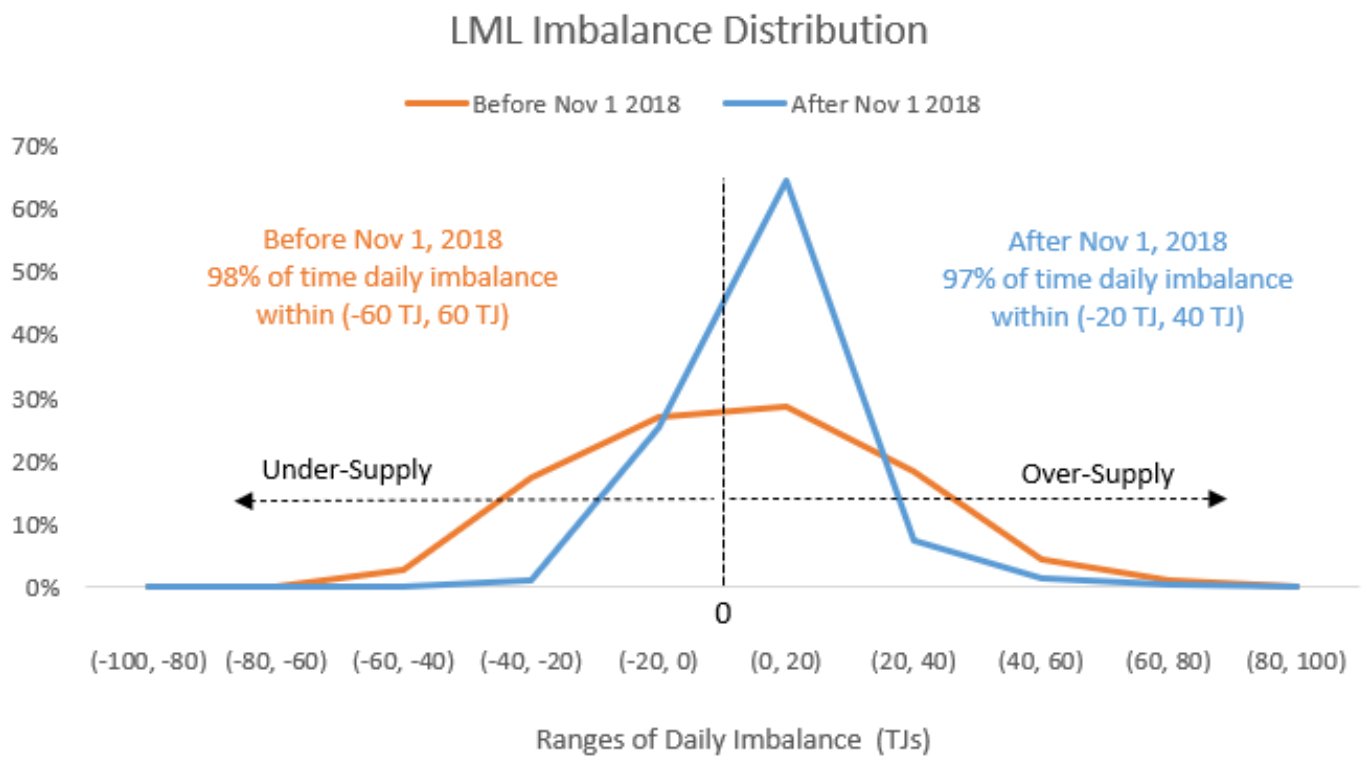
- The purpose of the report - performance under the new rules
- The model has continued to work well and as intended under the revised rules
- FEI expected this outcome given the very thorough rate design process
- Marketers are demonstrating their ability to balancing daily and within the 10% tolerance
- Shipper agents provided suggestions and feedback – FEI considered each of the requests in the report
- FEI is not recommending any substantive changes to the model or the rules at this time
- FEI has recommended smaller changes that are easy to implement

Directive 1: FEI Response

Impact of new balancing rules on the use of core resources including both changes to variable costs of balancing the system to accommodate transportation service and changes to fixed costs arising from a need to contract midstream resources differently;

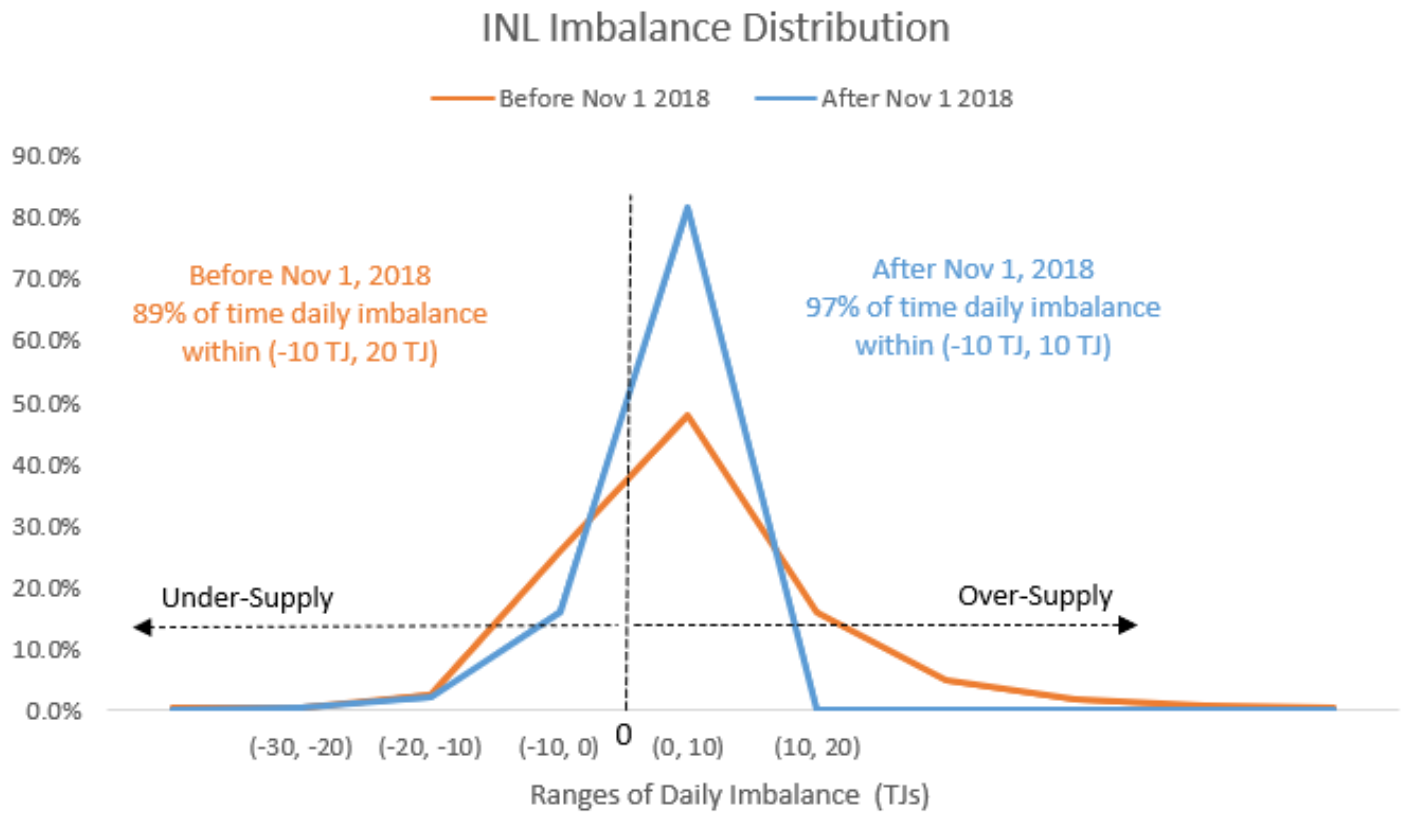
- FEI manages the OBA as a whole, difficult to determine if daily imbalances are born by core or transportation customers
- FEI observes that in aggregate shipper agents are matching supply and demand
- Charges are not significant
- FEI's view, revised rules are achieving closer balancing, therefore less action from midstream to adjust the gas day for imbalances borne by transportation customers.
- Regarding fixed costs - FEI has not incurred additional fixed costs for resources held for sales customers to balance Transportation customers

Transportation Imbalances – Lower Mainland



Energy at work FORTIS BC™

Transportation Imbalances – Interior



Energy at work FORTIS BC™

Directive 2

Effectiveness of Imbalance return to incent Shippers to manage system inventory, including discussion for modifications to the allocation in response to changes in demand for IR after the balancing rules were implemented.

Marketer Feedback and Requests

Marketer Feedback:

- Revised allocation is working well, provides certainty
- Distributed fairly and equitably
- Valuable resource to manage customer load and to balance within the 10% tolerance

Requests:

1. FEI to release a higher amount of IR as a whole.
2. Mechanism to allow greater IR to specific Marketer(s) by request.
3. Reallocation of unutilized service to other interested Marketers.
4. Minimum allocation of IR to groups with smaller demand.
5. Modify the allocation to incorporate a volatility/load factor.
6. Make IR available during Hold to Authorize (HTA)/Supply restriction periods.

FEI Feedback

Recommends: Minimum allocation to groups with smaller demand

- Revised allocation is fair and reasonable
- FEI observes IR is not fully utilized
- There is not perfect model
- Revised allocation is working well based on inventory levels and minimal charges

Directive 3

Whether there should be further tightening of tolerances for under-supply

Marketer Feedback and Requests

Marketer Feedback:

- No shipper agents were in favour of an increased balancing tolerance
- Mixed feedback regarding the 10% tolerance

Requests:

7. Return to the 20% tolerance, and
8. FEI to offer a different percentage of balancing tolerance by season or during specific times of the year (i.e. shoulder months) when operational conditions allow.

FEI Feedback

Recommendation: FEI does not feel a further tightening is necessary at this time.

- The approved changes from the RDA effectively moved the Transportation Model rules closer to industry standard.
- FEI – Station 2 (5%), NGTL (+/- 2%)
- Avista (3-5%), Cascade and Puget Sound Energy (5%)
- Provide the incentive to manage demand more independently and closely
- Supply tracks closely to demand
- Minimal charges

Directive 4

Whether it is necessary to implement tolerances and associated charges for over-supply

Marketer Feedback and Request

Marketer Feedback:

- No interest in a tolerance for over-supply
- FEI encouraged to use the tools in the tariff to manage over-supply incompliance

Requests:

9. FEI to withhold inventory/pack for specific marketers that are over-delivering as opposed to restricting the service for all.

21. Apply tariff charges to specific shipper agents

FEI Feedback

Recommendation: FEI does not feel a tolerance and charges for over-supply are necessary at this time

- FEI monitors inventories on a regular basis and requests a 2-3 day range
- With the move unified daily balancing and the increased 10% tolerance, imbalances have not been excessive
- Rules within the existing tariff allow FEI to take action if needed

Directive 5 – FEI Feedback

Whether the balancing charges appropriately recover the costs of providing balancing to transportation service customers and provide sufficient incentive to transportation service customers to balance their supply and demand.

Recommendation: the balancing charges remain appropriate and provide the sufficient incentive

- FEI reviewed and updated the inputs into the incremental $0.25 and determined it remains reasonable and appropriately recovered balancing costs within the 10-20% range
- With respect to sufficient incentive, many of the Marketers indicated the charge factored into their daily decisions
- This is further supported by the low levels of charges incurred

Summary of Charges 2012 to 2022

Row Labels	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Backstopping - Daily	104,213.0	260,112.0	134,613.0	288,418.0	78,842.0	64,770.0	19,971.0	3,227.0	3,340.0		
Balancing gas	452,603.4	403,726.0	258,704.3	164,824.7	125,922.9	191,272.9	72,642.2	2,992.4			
Balancing Gas Daily	61,001.6	133,962.0	90,072.7	60,502.2	60,894.2	41,163.1	37,355.0	327,221.9	77,303.6	43,694.7	1,795.4
Balancing service	87,457.5	110,989.4	85,304.5	31,274.9	76,409.8	23,450.7	47,465.6	469,373.4	207,256.9	253,544.2	55,883.1
Balancing service 10% - 20%							10,098.4	256,547.7	119,306.4	94,953.6	33,796.2
Replacement gas							12.1				
Unauthorized Overrun - Daily B1	2,802.8	800.4	19,591.5		5,790.9	6,738.7	17,145.2	9,756.6	5,334.7	871.2	
Unauthorized Overrun - Daily B2	3,063.8	968.4	20,629.0	12.6	499.9	4,407.0	2,916.4	555.2	409.2	986.2	
Grand Total	**711,142.10**	**910,558.20**	**608,915.00**	**545,032.40**	**348,359.70**	**331,802.40**	**207,605.90**	**1,069,674.16**	**412,950.83**	**394,049.90**	**91,474.70**

Row Labels	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Backstopping - Daily	$ 264,415.30	$ 1,329,350.73	$ 568,999.59	$ 827,168.84	$ 201,743.97	$ 200,050.35	$ 60,602.36	$ 16,709.95	$ 13,059.64		
Balancing gas	$ 1,064,684.11	$ 1,531,926.09	$ 1,111,413.95	$ 473,199.56	$ 407,534.48	$ 609,658.99	$ 187,158.58	$ 8,323.21			
Balancing Gas Daily	$ 140,387.14	$ 465,469.74	$ 372,525.25	$ 165,960.23	$ 136,109.28	$ 133,474.86	$ 121,691.71	$ 1,648,243.19	$ 241,061.13	$ 256,874.00	$ 8,452.74
Balancing service	$ 49,211.03	$ 73,772.02	$ 76,963.19	$ 18,428.39	$ 76,740.06	$ 23,665.29	$ 37,901.68	$ 370,049.77	$ 121,822.27	$ 121,372.98	$ 61,471.41
Balancing service 10% - 20%							$ 2,524.64	$ 64,081.21	$ 29,826.44	$ 23,730.29	$ 8,449.12
Replacement gas							$ 32.51				
Unauthorized Overrun - Daily B1	$ 8,464.58	$ 6,892.09	$ 166,639.45		$ 31,509.69	$ 25,973.17	$ 226,118.76	$ 260,365.46	$ 18,754.13	$ 5,993.34	
Unauthorized Overrun - Daily B2	$ 61,276.00	$ 19,368.00	$ 419,268.33	$ 252.00	$ 9,998.00	$ 88,140.00	$ 59,812.79	$ 17,572.88	$ 8,184.00	$ 19,762.02	
Grand Total	**$ 1,588,438.16**	**$ 3,426,778.67**	**$ 2,715,809.76**	**$ 1,485,009.02**	**$ 863,635.48**	**$ 1,080,962.66**	**$ 695,843.03**	**$ 2,385,345.67**	**$ 432,707.61**	**$ 427,732.63**	**$ 78,373.27**

GJs	2020	2021
Annual Throughput	67,000,000	73,000,000
10-20%	120,000	95,000
Total Charges	413,000	395,000
%		
10-20%	0.18%	0.13%
Total Charges	0.62%	0.54%

Directive 6

Nature, timing and adequacy of information provided to shipper agents to manage gas supply resources.

Marketer Feedback and Requests

Marketer Feedback:

- Mixed feedback regarding data sufficiency

Marketer Requests:

10. FEI to investigate better measurement technology available in the industry.
11. FEI to provide an intra-day estimate in WINS.
12. FEI to improve data quality of the previous day estimate in WINS.
13. FEI to provide a daily delivery requirement during normal and/or HTA/supply restriction periods.
24. Include real time SCADA information prior to the intra-day cycles
25. Create marketer dashboards to provide collected data snapshots of marketer group information

FEI Feedback

Recommendation: (1) Evaluating a change in the timing of meters calling into FEI and (2) Advanced Metering Infrastructure (AMI) Application

- BCUC determined the data provided by FEI was sufficient
- Atrium Economics peer review – FEI data consistent with industry standard
- Historical data is one component in forecasting process
- The volume of charges supports data sufficiency

Directive 7

Administration of inter-customer group balancing and transparency of inter-customer group balancing rules.

Marketer Feedback and Requests

Marketer Feedback:

- Generally appreciative of this process

Marketer Requests:

14. Automate the process and/or a bulletin board format.
15. Continue process as is (status quo).
16. Proposed a utility super group netting exercise, where if as a whole, all shippers combined deliver sufficient supply to meet demand there should be no penalty.

FEI Feedback

Recommendation: FEI is in favour of the status quo

- Process of amending nominations is not overly burdensome
- Occurs infrequently for days in the year
- FEI involvement and oversight ensures Shipper Agents are meeting their obligations
- There is a cost to automation
- Super-netting would be a disincentive to manage supply

Directive 8

FEI's criteria for curtailment of inventory returns to shipper agents.

Marketer Feedback and Requests

Marketer Feedback

- Mixed feedback around FEI's decisions to limit this service

Marketer Requests

17. Days when Imbalance return is reduced/eliminated flag the line item in the nomination screen.

18. FEI to provide a "status update" for operational changes (weather/maintenance/ interconnecting pipeline status, etc.) when reducing IR.

FEI Feedback

Recommendation: FEI can accommodate flagging the nomination screen

- Imbalance return is an interruptible service at the utility's discretion
- Historically FEI has made every effort to provide advance notice
- FEI has not changed its approach to when limiting this service (cold weather/capacity disruption)
- Consistent with regional pipeline restrictions

Additional Requests – FEI Feedback

Marketer Request

19. Daily Balancing Charges Interior (Sumas to Station 2 price)

Recommendation: FEI is not in favour of amending this charge

- Table of Charges – all based on a Sumas Gas Daily price
- Sumas is a more appropriate market price benchmark
- Price of gas at Station 2 is not reflective of the market and do not incorporate pipeline tolls
- Volume of Daily Balancing Gas incurred is insignificant
- Charge achieves intended outcome

Additional Requests – FEI Feedback

Marketer Request:

20. Timely cycle deadline flexibility

Recommendation: FEI is not in favour of implementing this change

- Enbridge has the flexibility to extend/keep open timely deadline to allow for late nominations
- WINS has deadlines that are Timed events – no flexibility
- Once the cycle deadline is reached, the requests are sent off automatically to the interconnecting pipeline
- Changes to the WINS system would require money, time and resources
- Not a frequent occurrence

Additional Requests

Marketer Requests:

22. FEI to disclose the parameters and conditions for issuing HTA/Supply restrictions.

23. FEI to apply locational/regional HTA – not apply across all regions.

26. Provide clear information, timelines, priorities and other information related to curtailment

27. Tariff be structured so FEI may curtail/HTA only when absolutely necessary

28. Clear and consistent criteria for the return of HTA gas inventory and a mechanism for returning any premium value of that inventory, and specifically that FEI publish its criteria so customer and marketers can understand how FEI will make its decisions it’s criteria

FEI Feedback

Recommendation: FEI's practice for issuing HTA/supply restrictions status quo

- Never FEI's intent to limit services
- Decisions remained consistent over time – as much as advance notice as possible
- Issues HTA in response to cold weather or pipeline restrictions
- FEI assess regional and provincial wide conditions when limiting services
- Consistent with the timing of Northwest Pipeline's restriction practices

Additional Requests – FEI Feedback

29. FEI to adhere to the Gas Marketers Code of Conduct

- Rejected G-210-20

Summary

- The model has continued to work well and as intended under the revised rules
- In aggregate, marketers are balancing daily and within the 10% tolerance
- FEI is not recommending any substantive changes to the model or the rules at this time
    - *Minimum allocation of Imbalance Return to smaller groups*
    - *Flag nomination screen with Imbalance Return is reduced/eliminated*
    - *Evaluating timing of meter call-in to provide a previous day actual and current day estimate*
    - *Status quo for inter-customer group balancing*
- Report filing June 2022

Thank you

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For further information, please contact:

Stephanie Salbach, Transportation Service Manager [redacted]

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Attendees for the May 10/22 Stakeholder Session - Transportation Services Workshop

Company	Name	In-Meeting Dura	First Join	Last Leave	Role
Absolute Energy	Kirby Morrow	1h 29m 10s	5/10/22, 11:01:12 AM	5/10/22, 12:30:22 PM	Attendee
Access Gas	Sheri Clemons	1h 36m 17s	5/10/22, 10:53:55 AM	5/10/22, 12:30:12 PM	Attendee
Access Gas	Patti Andersen	1h 34m 33s	5/10/22, 10:55:48 AM	5/10/22, 12:30:22 PM	Attendee
Access Gas	Charlie Barrotta	1h 33m 47s	5/10/22, 10:56:32 AM	5/10/22, 12:30:19 PM	Attendee
Atrium Economics	Ron Amen	1h 36m 31s	5/10/22, 10:53:55 AM	5/10/22, 12:30:26 PM	Presenter
Atrium Economics	Chris Hutchinson	1h 36m 23s	5/10/22, 10:53:55 AM	5/10/22, 12:30:18 PM	Presenter
Atrium Economics	John Taylor	1h 29m 48s	5/10/22, 11:00:31 AM	5/10/22, 12:30:19 PM	Attendee
BC PIAC	Executive Director	1h 21s	5/10/22, 11:01:54 AM	5/10/22, 12:02:15 PM	Attendee
BCUC	Engels, Greg	1h 30m 21s	5/10/22, 10:59:59 AM	5/10/22, 12:30:21 PM	Attendee
BCUC	Lavoie, Ted	1h 30m 9s	5/10/22, 11:00:15 AM	5/10/22, 12:30:24 PM	Attendee
BCUC	O'Neal, Joshua	1h 28m 20s	5/10/22, 11:02:09 AM	5/10/22, 12:30:30 PM	Attendee
Direct Energy	Fredricksen, James	1h 29m 33s	5/10/22, 11:00:08 AM	5/10/22, 12:29:42 PM	Attendee
Direct Energy	Black, Nicole	59m 37s	5/10/22, 11:00:20 AM	5/10/22, 11:59:57 AM	Attendee
Direct Energy	DSilva, Kenneth	1h 12m 53s	5/10/22, 11:00:41 AM	5/10/22, 12:13:35 PM	Attendee
Direct Energy	Brand, James	55m 7s	5/10/22, 11:01:30 AM	5/10/22, 12:13:09 PM	Attendee
FortisBC	Salbach, Stephanie	1h 36m 42s	5/10/22, 10:53:42 AM	5/10/22, 12:30:25 PM	Organizer
FortisBC	Gill, Manpreet	1h 32m 15s	5/10/22, 10:58:05 AM	5/10/22, 12:30:21 PM	Presenter
FortisBC	Hodgins, Kevin	1h 29m 21s	5/10/22, 11:00:57 AM	5/10/22, 12:30:18 PM	Presenter
FortisBC	Yasinchuk, Matt	1h 28m 34s	5/10/22, 11:01:56 AM	5/10/22, 12:30:30 PM	Presenter
FortisBC	Bevacqua, Ilva	1h 24m 36s	5/10/22, 11:05:47 AM	5/10/22, 12:30:24 PM	Presenter
FortisBC	Hill, Shawn	1h 20m 34s	5/10/22, 11:09:48 AM	5/10/22, 12:30:22 PM	Presenter
IGI Resources	Johnston, Kim	1h 2m 22s	5/10/22, 10:59:21 AM	5/10/22, 12:01:44 PM	Attendee
RCIA	Peter Helland	1h 31m 34s	5/10/22, 10:59:01 AM	5/10/22, 12:30:35 PM	Attendee
Sentinel	Jim (Guest)	40m 29s	5/10/22, 11:45:28 AM	5/10/22, 12:25:58 PM	Attendee
Shell Energy	Kalinowsky, Jade	1h 34m	5/10/22, 10:56:20 AM	5/10/22, 12:30:21 PM	Attendee
Shell Energy	Foster, Danielle	1h 31m 13s	5/10/22, 10:59:01 AM	5/10/22, 12:30:15 PM	Attendee
Shell Energy	Mccordic, Mary	1h 29m 37s	5/10/22, 11:00:37 AM	5/10/22, 12:30:15 PM	Attendee
Shell Energy	Gill, Blake	1h 28m	5/10/22, 11:02:18 AM	5/10/22, 12:30:19 PM	Attendee
Shell Energy	Ragheb, Hend	1h 24m 33s	5/10/22, 11:05:55 AM	5/10/22, 12:30:28 PM	Attendee
Tidewater Midstream	Mahdis Sadeghi	1h 29m 49s	5/10/22, 11:00:30 AM	5/10/22, 12:30:19 PM	Attendee