

2018 GAS, TRANSPORTATION, AND STORAGE COSTS

1. The purpose of this evidence is to provide an overview of the gas cost consequences of the gas supply activities of Enbridge Gas Distribution Inc. (“Enbridge” or “the Company”) during the 2018 fiscal year. The process for developing the Company’s 2018 gas supply plan and calculating budgeted gas costs is consistent with the approach and the gas supply principles described in the Gas Supply Memorandum at Exhibit D1, Tab 2, Schedule 2.

Review of Current Market Conditions and Gas Supply Planning Principles

2. The gas supply planning cycle begins with a review of North American natural gas market conditions. In recent years, changes to the TransCanada PipeLines Limited (“TCPL”) Mainline toll structure and increasing supply opportunities in the United States northeast have influenced a shift from Alberta purchases (paired with long haul transportation) to Ontario purchases at the Dawn and Niagara receipt points (paired with short haul transportation). This influence is evident in the decisions made by Enbridge in TCPL’s 2017 New Capacity Open Season (“2017 NCOS”) discussed below in Paragraph 13 and changes in M12 contracting described in Paragraph 17.
3. As Enbridge and other shippers shift supply purchases east, the Company also needs to ensure its gas supply plan is not overly reliant on one source of supply. To this end, Paragraphs 33 discusses efforts made by the Company to assure the diversity of the gas supply portfolio and help maintain security of supply.
4. Throughout the gas supply planning process, the gas supply planning principles of reliability, diversity, flexibility, and landed cost, are revisited to ensure a well-designed and robust plan.

Witness: D. Small

Peak Day Coverage

5. The Company's gas supply portfolio is structured first and foremost to meet peak demand. Enbridge has prepared its 2018 gas cost budget assuming peak day Heating Degree Day values of 41.4 degree days in the Central Weather Zone, 48.2 degree days in the Eastern Weather Zone, and 38.8 degree days in the Niagara Weather Zone, consistent with the Company's current Design Criteria¹.
6. Based upon this Design Criteria and the information available at the time, Enbridge is forecasting a design peak day volume of 105,970 10³m³ (4.1 PJ) during the winter season of the 2018 fiscal year.
7. A comparison of the 2018 Forecast Peak Day Supply Mix and the 2017 Forecast Peak Day Supply Mix can be found at Exhibit D1, Tab 2, Schedule 7. This schedule is structured in two parts: The first part, Budget Net Peak Day Demand (on Line 3), is the result of total system peak day demand less curtailment volumes²; the second part, displayed between Lines 4 and 11, is all of the services Enbridge has procured to meet peak day demand (the total of which is contained in Line 12). These include transportation services, deliveries from Ontario T-Service customers, third-party supplies delivered to the franchise area, and peaking service.
8. Note that the 2018 requirement for Peaking Supplies in the CDA and EDA, as indicated in Line 11, has not been contracted for at the time of this filing. However, for purposes of forecasting gas costs for 2018, a historical average of pricing has been used. Any variation between the actual and forecasted cost will be captured in the 2018 Purchased Gas Variance Account ("2018 PGVA").

¹ Current Design Criteria is discussed in Section 2.3 of Exhibit D1, Tab 2, Schedule 2.

² Curtailment volumes are defined and discussed in Section 3.4.2 of D1, Tab 2, Schedule 2.

Witness: D. Small

Transportation Planning and Costs

9. A summary of the Company's 2018 transportation contracts can be found at Exhibit D1, Tab 2, Schedule 9, page 1 (the Status of Transportation Contracts). Note that the total contracted daily volume on this schedule is greater than listed on the Forecast Peak Day Supply Mix schedule. This is due to the fact that the Peak Day Supply Mix schedule displays volumes delivered to the Enbridge franchise area, while the Status of Transportation Contracts schedule lists all Transportation contracts, including those that deliver volume to other receipt points such as Dawn, for transportation onwards to the CDA and EDA.

10. Enbridge has a number of Firm Transportation ("FT") and other service entitlements in place for system gas sourced in Western Canada and the United States during the 2018 fiscal year. These include service entitlements on traditional paths such as TCPL and the Vector Pipeline ("Vector"). TCPL long haul FT can be referenced at Line 4 of Schedule 7 and Lines 1 to 6 of Schedule 9. Vector capacity can be referenced in Lines 22 to 25 of Schedule 9, but is not identifiable in the Peak Day Supply Mix schedule since the capacity is delivered to Dawn rather than the Enbridge franchise area. Gas delivered to Dawn can be transported to the franchise area via TCPL short haul (Schedule 7, Lines 6 and 7) as well as Union Deliveries (Schedule 7, Line 9). In the Status of Transportation Contracts schedule, TCPL short haul and STS transportation contracts are identified in Lines 7 to 20, while Union transportation contracts are in Lines 27 to 38.

11. Effective November 1, 2017 the Company is forecasting the NEXUS Pipeline to be in-service, providing Enbridge the ability to acquire gas at the Dominion South point³.

³ Gas purchased for delivery on the NEXUS pipeline may be purchased at points other than Dominion South, but Enbridge will refer to these supplies as Dominion South for the purposes of this evidence since it is the largest hub in the area.

Witness: D. Small

12. This supply will be transported via Kensington and interconnect with the Vector Pipeline. NEXUS capacity is identified in Line 26 of Schedule 9, and further discussed in Section 3.2.5 of Exhibit D1, Tab 2, Schedule 2 and in Schedule 3. For purposes of the 2018 application the Company has assumed the originally planned in-service date for NEXUS of November 1, 2017 and therefore fully in place for the 2018 calendar year. The Company is aware however, that the in-service date has been recently delayed to 2018 as a result of NEXUS not receiving Federal Energy Regulatory Commission (“FERC”) approval due to a lack of voting quorum. At this time the length of a delay is unknown. In order to mitigate the impact of the NEXUS in-service delay, Enbridge will continue to fill its Vector capacity with supply from Chicago until the contracted capacity on NEXUS comes into service. For the purposes of 2018 the Company is proposing that any variances associated with a delay will be captured as a part of the 2018 PGVA.
13. As a result of elections made in TCPL’s 2017 New Capacity Open Season which closed January 30, 2015 (“2017 NCOS”), the Company will be converting currently contracted long haul capacity on TCPL to short haul capacity on TCPL, and contracting for incremental short haul capacity on TCPL, with all changes effective November 1, 2017, subject to the in-service date of the TCPL Vaughan Mainline Expansion. Specifically:
- 63,468 GJ per day of Empress to CDA capacity will be converted to an equivalent amount of Union Parkway to CDA capacity;
 - An incremental 24,484 GJ per day of Union Parkway to CDA capacity will be added, for a total of 87,952 GJ (Line 12 of Schedule 9);
 - 34,377 GJ per day of Empress to EDA capacity will be converted to an equivalent amount of Union Parkway to EDA capacity; and

Witness: D. Small

- An incremental 48,737 GJ per day of Union Parkway to EDA capacity will be added, for a total of 83,114 (Line 17 of Schedule 9).
14. With the reduction in contracted long haul TCPL capacity, the Company is not forecasting any TCPL Unabsorbed Demand Charges (“UDC”) and is not proposing a UDC Deferral Account for 2018. UDC was forecast in prior years when the Company did not expect it would fully utilize its contracted long haul TCPL capacity.
15. For the purposes of the 2018 forecast, the Company has also assumed that the Dawn T-Service option will become available to customers effective November 1, 2017 and that, as Direct Purchase agreements renew, customers will switch from the Ontario T-Service or Western T-Service options to Dawn T-Service, as per the election process⁴. The Company is also forecasting that customers who currently have an assignment of short haul capacity in accordance with Phase 1 will have their assignment renewed month-to-month beyond November 1, 2017 until their Direct Purchase agreement renewal date. The Company has worked closely with the Direct Purchase customers to develop a contingency plan should there be a delay in the TCPL Vaughan Mainline Expansion.
16. The impact of Direct Purchase customers shifting from Western or Ontario T-Service to Dawn T-Service is twofold: firstly, peak day deliveries to the franchise area via Ontario T-Service customers will decline (Line 8 of the Peak Day Supply Mix schedule); secondly, the Company needs to increase volumes delivered to the franchise area to replace the decline in volume delivered by Ontario T-Service customers (currently that deficiency is mostly visible as an increase in Peaking Service in Line 11 of Schedule 7). The expectation is that over time as the Dawn T-Service option becomes more prevalent then it will no longer be necessary for new

⁴ Details on all phases and conditions of DTS are outlined in the Dawn Access Application & Settlement Agreement, filed under EB-2014-0323.

Witness: D. Small

Direct Purchase customers to demonstrate firm transportation commitments.

However, the Company reserves the right to review this on a case by case basis should the Ontario T-Service option begin to increase or should other service types become available in the future.

17. M12 and M12X service entitlements on the Union system currently total 2,795,102 GJ per day (3,718 MMcf per day), and are scheduled to increase by 190,000 GJ per day effective November 1, 2017 (Line 38 of Schedule 9) for a total available capacity of 2,985,102 GJ per day. Enbridge also holds 236,586 GJ per day of westerly C1 capacity on the Union system (Line 35 of Schedule 9). M12 is a versatile service, providing delivery of gas by Union at Dawn for storage injection or onward transportation, as well as for gas withdrawn from storage at Tecumseh or Union, or both. As a transportation service, M12 provides onward transportation of gas sourced in Western Canada or the United States, or both, and delivered at Dawn. Of the 2,985,102 GJ per day of capacity listed above, 200,000 GJ per day is M12X capacity. M12X service differs from M12 service in that it is bi-directional, allowing for transportation of gas between any two of the main points on the Union system, Dawn, Parkway, or Kirkwall.
18. The Company also has M16 transportation capacity with Union to facilitate the use of the Chatham "D" Storage pool.
19. The gas cost forecast assumed January 1, 2017 Union tolls. Any variation between actual Union tolls and the forecasted tolls will be captured in the 2018 Storage and Transportation Deferral Account ("2018 S&TDA").

Supply Planning and Commodity Costs

20. A new supply source was added in 2017 and continues in 2018 - see Exhibit D1, Tab 2, Schedule 5, page 1 (the Summary of Gas Cost to Operations): Dominion

Witness: D. Small

Supplies, on Line 8. Dominion Supplies refer to gas acquired in the vicinity of the Dominion South point near the Marcellus and Utica shale basins, and transported to the Dawn Hub on the NEXUS and Vector Pipelines. The decision to acquire supplies from Dominion supports diversity and reliability.

21. As a consequence of changes in the management of storage balances that were first introduced in the 2015 gas supply plan coupled with the de-contracting of long haul TCPL capacity the Company has seen its Dawn requirement continue to grow. The the most significant impact is on the winter purchase requirements. In 2018 the Company is forecasting an annual Dawn requirement of $2,613.6 \times 10^6 \text{m}^3$ (92.2 Bcf) with $1,669.2 \times 10^6 \text{m}^3$ (58.9 Bcf) required during the winter months. To manage the additional winter seasonal requirements the Company intends to acquire the necessary supplies through a series of RFPs (seasonal, term and monthly) as well as buying gas on the day at Dawn throughout the winter. The purpose for not contracting for the entire requirement prior to the start of the winter season is that the Company needs to maintain a level of flexibility in its portfolio to be able to manage potential reductions in demand because of warmer than budgeted weather this winter. Similar to the winter of 2017, the Company will also be looking at opportunities to acquire the necessary supplies at other supply basins. For example, in 2017 the Company acquired incremental Vector capacity which allowed for increased purchases in Chicago thereby reducing the reliance on the winter Dawn requirements and enhancing the gas supply plan's reliability and mitigating landed cost risk.

22. For 2018, the Company plans to use a similar approach. When the Vector Pipeline recently held an Open Season for capacity for the 2018 winter, the Company evaluated the economics of bidding into the available capacity. However, upon a review of a cost analysis of acquiring incremental Vector capacity versus Dawn

Witness: D. Small

purchases the least cost option was to not bid in for Vector capacity. The Company is also reviewing shorter term high deliverability seasonal exchanges to meet a winter Dawn requirement. These hybrid arrangements provide economic benefit to customers and offer enhanced operational flexibility.

23. Until 2021, the Company does not see a material change in the level of the winter Dawn requirement. Therefore, the Company intends to acquire an incremental 2 to 3 PJ's of third party storage effective April 1, 2018 – see paragraph 29 – which will allow the Company to purchase additional supplies in the summer for injection purposes which will then be available to be withdrawn from storage in the winter. This will allow the Company to capture the benefit of operational flexibility and reliability as well as passing on the benefit of lower summer prices on to customers.
24. The Company's forecast of gas supply acquisition during the 2018 Fiscal Year can be referenced in Exhibit D1, Tab 2, Schedule 5, the "Summary of Gas Costs to Operations", and is reproduced in Table 1, below.⁵

⁵ The difference between the Total Volume in the table vs. Line 9 of Schedule 5 is equal to the TCPL Fuel Requirement, Line 1.6 of Schedule 5.

Witness: D. Small

Table 1: 2018 Volumes and Costs, by Source

<u>Contract Type / Supply Source</u> ^[1]	Volume (10 ³ m ³)	Cost \$ (000's)
Western Canadian Supply	1,834,819.30	191,417.4
Ontario Production	358	54.5
Peaking	3,520.50	4,373.6
Chicago Supplies	651,514.90	96,645.3
Dominion Supplies	1,102,563.70	153,232.1
 Dawn Delivered Supplies	 2,613,645.40	 412,011.5
Niagara Supplies	1,900,052.10	226,920.1
Total	8,106,443.90	1,084,654.4

[1\[1\] Details on the supply sources can be found in Exhibit D1, Tab 2, Schedule 1, Section 3.1.](#)

25. The prices assumed for the supplies listed in Table 1 reflect the market's assessment for the different expected delivery points in the Company's forecast of gas supply at the time of preparation of this evidence. However, in an effort to isolate the cost impact resulting from the change in supply mix, the Company removed the impact of the updated price forecast and assumed that the 2018 gas cost will be based upon the July 1, 2017 QRAM Reference Price.

Witness: D. Small

26. Any variance between the actual commodity cost and the forecasted prices will be captured in the 2018 PGVA. Also, any variation between the forecasted transportation tolls and the actual tolls will be captured in the 2018 PGVA.
27. Enbridge proposes that the 2018 volumetric forecast as set out at Exhibit D1, Tab 2, Schedule 5 be used, on an interim basis, for the purpose of deriving reference prices in 2018 QRAM applications by Enbridge, until a final decision in this proceeding is implemented. Following Board approval of 2018 volumes and the cost consequences of the 2018 gas supply plan, any adjustments, if necessary, will be made within the next QRAM application.

Storage⁶

28. Management of storage balances assumed in the 2018 gas supply plan is consistent with the methodology described in Section 3.3 of Exhibit D1, Tab 2, Schedule 2, whereby the Company is able to maintain maximum deliverability from storage until the end of February, and able to maintain deliverability sufficient to meet March peak day as late as March 31.
29. Storage contracts for capacity with third party providers are valued at market based pricing. The magnitude of the contracted capacity and the term of the contracts vary such that every year Enbridge will enter the marketplace via an RFP process seeking to replace the contracted capacity scheduled to expire March 31 of that year. For purposes of the 2018 gas cost forecast, the Company has assumed the amount and value of storage set to expire be extended. As mentioned in paragraph 23 the Company intends to acquire an additional 2 to 3 PJ's of storage effective

⁶ The Company has underground storage of its own at Tecumseh near Corunna in southwestern Ontario and at Crowland near Welland in the Niagara Region, but this section is concerned with storage provided by third-parties.

April 1, 2018. For gas cost purposes in 2018 the Company has assumed a value for this incremental storage equivalent to the current value of the storage contracts scheduled to expire March 31, 2018. Any variation between the assumed storage costs and the actual cost of storage acquired will be captured in the 2018 S&TDA.

30. Storage contracts are identified in Exhibit D1, Tab 2, Schedule 9, page 2.

Evaluation

31. Enbridge evaluates its gas supply plan using four gas supply planning principles: Reliability, Diversity, Flexibility, and Landed Cost. Comments on the 2018 gas supply plan, as they relate to each planning principle are expanded below.

Reliability

32. In its 2018 gas supply plan, Enbridge has continued to focus on sourcing gas from established liquid hubs such as Empress and Dawn. Contracted capacity out of Dawn is at an all-time high for the Company. Enbridge is continuously reviewing and evaluating opportunities which will improve the ability to meet its' gas supply obligations. To avoid an over-reliance on daily purchases at Dawn, Enbridge will procure at sources upstream of Dawn by utilizing Vector capacity from Chicago and from Dominion South (via NEXUS). Since Niagara is a less liquid, the Company contracts for seasonal and annual supply rather than making daily purchases there.

Diversity

33. As discussed in paragraph 13, the Company is converting a significant portion of TCPL long haul capacity to TCPL short haul capacity. However, Enbridge has chosen to retain some TCPL long haul capacity to maintain diversity of path and source. This is discussed in the Gas Supply Future Considerations document – Exhibit D1, Tab 2, Schedule 11 in Paragraph 34. The Company has also increased its diversity through the addition of Dominion South supply via NEXUS capacity.

Witness: D. Small

Appendix 1 found on page 14 of this Exhibit charts the sources included in the 2018 gas supply portfolio as compared to the 2017 and 2016 gas supply portfolios to provide a visual representation of gas supply diversity.

Flexibility

34. Appendix 2 found on page 15 of this Exhibit provides a visual representation of the gas supply portfolio's flexibility, in terms of contract renewal terms, broken down by delivery area. With 78% and 63% of contracted capacity delivered to the CDA and EDA, respectively, up for renewal in the next five years, Enbridge has ensured it will have options in its gas supply portfolio. In some cases, it is necessary to make longer-term commitments to satisfy other planning criteria. For example, the 15-year agreement with NEXUS is a significant benefit to diversity, reliability, and landed cost. In other cases, the Company is able to make shorter term supply and capacity arrangements, and does so when appropriate.

Landed Cost

35. The shift from long haul capacity to short haul capacity is contributing to a lower cost gas supply portfolio, on a per unit basis. Landed cost was considered in all contracting decisions made for 2017, weighed against the other three gas supply principles.

Energy Content

36. As a part of the 2017 Settlement Agreement (EB-2016-0215) Enbridge made a commitment that starting with its 2018 gas supply plan, Enbridge would use an updated heat value when developing its annual gas supply plan. For 2018 Enbridge has used a gross heating value of 38.42 MJ/m³ to convert quantities (i.e., GJ, Dth) into volumes (i.e., 10³m³, MMcf). Quantities are the units specified in many of Enbridge's gas purchase and transportation service agreements, whereas Enbridge rates are volumetric. Enbridge also committed to use an updated monthly

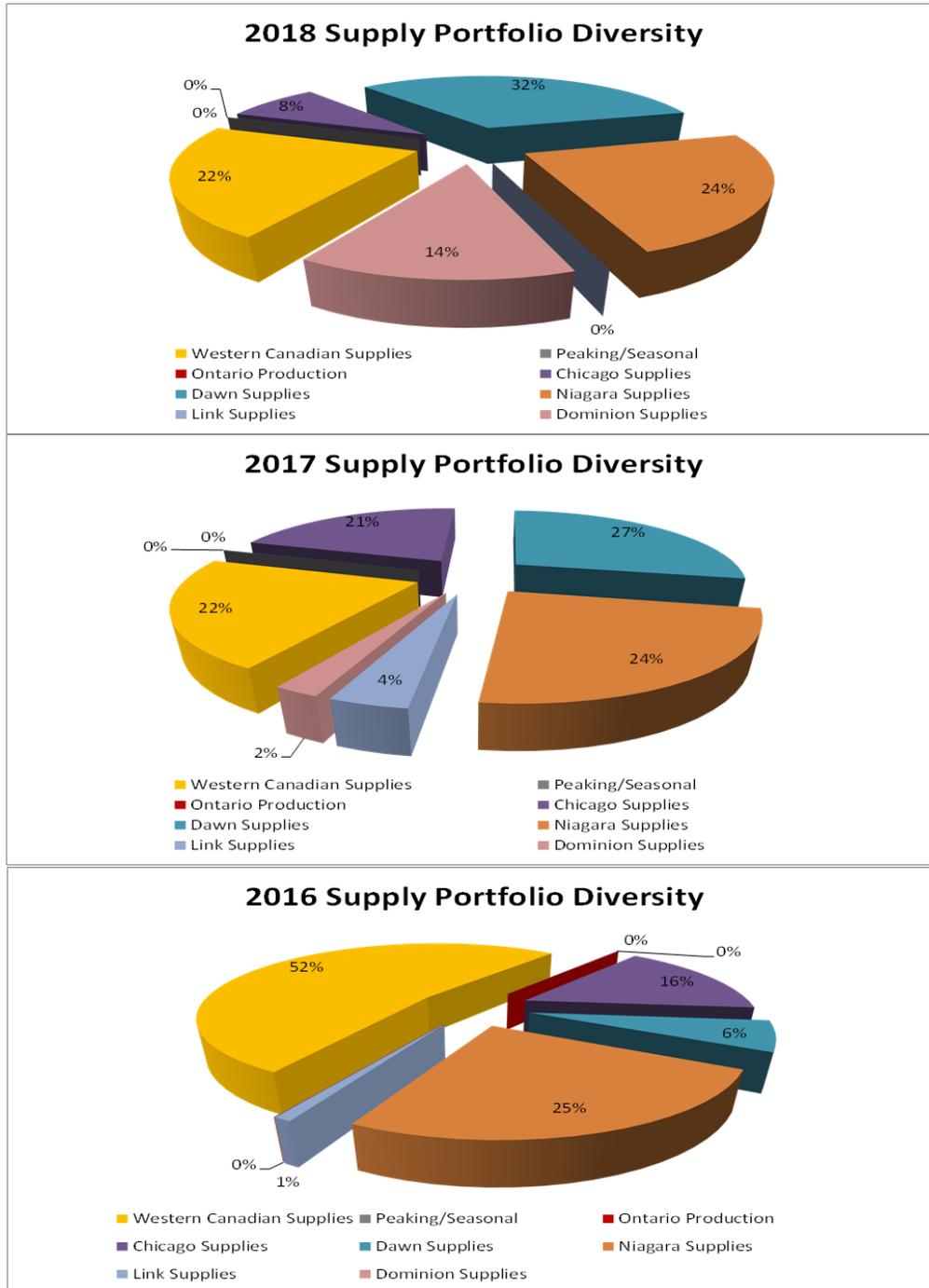
Witness: D. Small

heat value for purposes of converting Direct Purchase deliveries from GJ's to m³ for Banked Gas Reporting. This practice began effective July 1, 2017 and was communicated to customers at a webinar held on March 30, 2017 and at a subsequent customer meetings in May of 2017. This is an example of the efforts of the Company to continuously improve its processes and practices to meet its gas supply obligations.

Relief Requested

37. Based on the evidence above the Company requests recovery of the cost outcomes of its 2018 Gas Supply Plan and the associated Gas Cost forecast for 2018.

Appendix 1



Witness: D. Small

Appendix 2

