

2017 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 2017 fiscal year. The process for developing the Company’s 2017 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 in Paragraph 13 and changes in M12 contracting described in Paragraph 18.
3. As Enbridge and other shippers shift supply obligations east, the Company also needs to ensure its gas supply plan is not overly reliant on one source of supply. To this end, Paragraphs 12 and 14 discuss efforts made by the Company to procure additional capacity upstream of Dawn, through Vector, NEXUS, and Link. These changes will increase the diversity of the gas supply portfolio and help maintain security of supply.

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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.

Peak Day Coverage

5. The Company's gas supply portfolio is structured first and foremost to meet peak demand. Enbridge has prepared its 2017 gas cost budget assuming peak day HDD 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, as produced by current Design Criteria¹.
6. Based upon this design day forecast and the information available at the time, Enbridge is forecasting a design peak day volume of 106,363 10³m³ (4.0 PJs) during the winter season of the 2017 fiscal year.
7. A comparison of the 2017 Forecast Peak Day Supply Mix and the 2016 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.

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 4.2 of D1, Tab 2, Schedule 2.

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8. Note that the 2017 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 2017, a historical average of pricing has been used. Any variation between the actual and forecasted cost will be captured in the Purchased Gas Variance Account (“PGVA”).

Transportation Planning and Costs

9. A summary of the Company’s 2017 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 2017 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 and STS (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

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contracts are identified in Lines 7 to 19, while Union transportation contracts are in Lines 28 to 39.

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.
12. This supply will be transported via Kensington and interconnect with the Vector Pipeline. NEXUS capacity is identified in Line 26 of Schedule 4, and further discussed in Section 3.2.5 of Exhibit D1, Tab 2, Schedule 2 and in Schedule 3.
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. 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 9 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
 - An incremental 48,737 GJ per day of Union Parkway to EDA capacity will be added, for a total of 83,114 (Line 11 of Schedule 9).

³ Gas purchased for delivery on the NEXUS pipeline may not be procured at 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.

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14. To address additional seasonal requirements, the Company has contracted for 50,000 Dth per day of Vector capacity between December 1, 2016 and February 28, 2017 (Lines 22 to 25). This capacity will help reduce the Company's reliance on Dawn purchases in the winter, enhancing the gas supply plan's reliability and mitigating landed cost risk. In another effort to reduce the overall requirement of Delivered Supplies at Dawn, Enbridge has entered into an agreement effective November 1, 2016 for 40,000 GJ's per day of Link Pipeline capacity to be able to access US supplies via the MichCon system.

15. 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 2017. UDC has been forecast in prior years when the Company does not expect it will be able to fully utilize its contracted long haul TCPL capacity.

16. For the purposes of the 2017 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 process. Prior to November 1, 2017, the Company plans to continue with Phase 1 of the Dawn Access Consultative by assigning a portion of its TCPL Dawn to CDA capacity to Direct Purchase customers⁴. 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.

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

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17. 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 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).
18. 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 39 of Schedule 9). Enbridge also holds 236,586 GJ per day of westerly C1 capacity on the Union system (Line 36 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 2,795,102 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.
19. The Company also has M16 transportation capacity with Union to facilitate the use of the Chatham "D" Storage pool.
20. The gas cost forecast assumed January 1, 2016 Union tolls. Any variation between actual Union tolls and the forecasted tolls will be captured in the 2017 Storage and Transportation Deferral Account ("2017 S&TDA").

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Supply Planning and Commodity Costs

21. Two supply sources have been added to Exhibit D1, Tab 2, Schedule 5, page 1 (the Summary of Gas Cost to Operations): Link Supplies, on Line 7; and Dominion Supplies, on Line 8. Link Supplies refer to gas procured at “MichCon Generic”, part of the DTE Energy system in Michigan, and transported to Tecumseh on the Link Pipeline. 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 Link and Dominion supports diversity and reliability.
22. The Company’s forecast of gas supply acquisition during the 2017 Fiscal Year can be referenced in Exhibit D1, Tab 2, Schedule 6, the “Summary of Gas Costs to Operations”, and is reproduced in Table 1, below.⁵

Table 1: 2017 Volumes and Costs, by Source

Contract Type / Supply Source ⁶	Volume (10 ³ m ³)
Western Canadian Supply	1,820,554.9
Ontario Production	365
Peaking	4,192.1
Chicago Supplies	1,682,897.7
Dominion Supplies	187,833.0
Link Supplies	322,632.0
Delivered Supplies	2,229,769.2
Niagara Supplies	1,936,853.3
Total	8,185,097.1

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.

⁶ Details on the supply sources can be found in Exhibit D1, Tab 2, Schedule 1, Section 3.1.

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23. 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. 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 as compared to the July 1, 2016 QRAM.
24. This ensures that the changes in gas supply costs in Schedule 1 are driven by the change in volumes from various supply sources and not the change in prices of those supplies. This method of rebasing commodity prices under an updated supply mix is consistent with that used in previous years, including the determination of the 2016 gas cost budget filed in EB-2015-0114.
25. Any variance between the actual commodity cost and the forecasted prices will be captured in the 2017 PGVA. Also, any variation between the forecasted transportation tolls and the actual tolls will be captured in the 2017 PGVA.
26. Enbridge proposes that the 2017 volumetric forecast as set out at Exhibit D1, Tab 2, Schedule 6 be used, on an interim basis, for the purpose of deriving reference prices in 2017 QRAM applications by Enbridge, until a final decision in this proceeding is implemented. Following Board approval of 2017 volumes and the cost consequences of the 2017 gas supply plan, any adjustments, if necessary, will be made within the next QRAM application.

Storage⁷

27. Management of storage balances assumed in the 2017 gas supply plan is consistent with the methodology described in Section 3.3 of Exhibit D1, Tab 2,

⁷ 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.

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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.

28. 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 2017 gas cost forecast, the Company has assumed the amount and value of storage set to expire be extended. Any variation between this assumed cost and the actual cost of storage acquired through an RFP process will be captured in the 2017 S&TDA.
29. Storage contracts are identified in Exhibit D1, Tab 2, Schedule 9, page 2.

Evaluation

30. Enbridge evaluates its gas supply plan using four gas supply planning principles: Reliability, Diversity, Flexibility, and Landed Cost. Comments on the 2017 gas supply plan, as they relate to each planning principle are expanded below.

Reliability

31. In its 2017 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. 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 hub, the Company contracts for seasonal and annual supply rather than making daily purchases there.

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Diversity

32. 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. The Company has also increased its diversity through the addition of Dominion South supply via NEXUS capacity, and through contracting for Link capacity. Appendix 1 charts the sources included in the 2017 gas supply portfolio as compared to the 2016 and 2015 gas supply portfolios to provide a visual representation of gas supply diversity.

Flexibility

33. Appendix 2 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 64% 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

34. 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.

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Energy Content

35. Enbridge has used a gross heating value of 37.69 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.⁸

Relief Requested

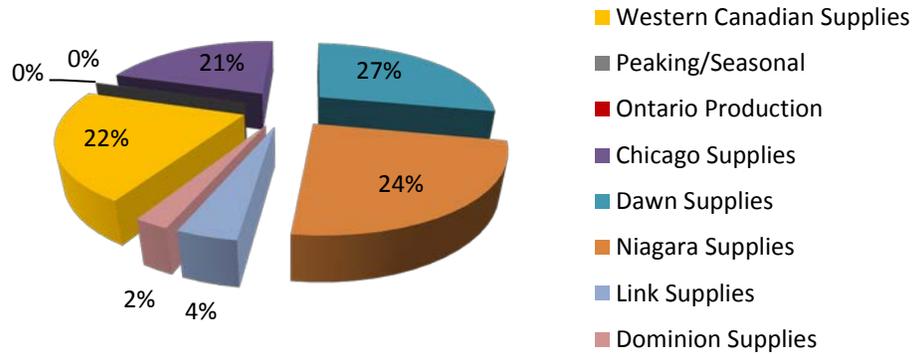
36. Based on the evidence above the Company requests recovery of the cost outcomes of its 2017 Gas Supply Plan and the associated Gas Cost forecast for 2017.

⁸ Paragraph 36 of Exhibit D1, Tab 2, Schedule 11 discusses the Company's intention to investigate whether or not the heat value conversion factor needs to be changed in future years.

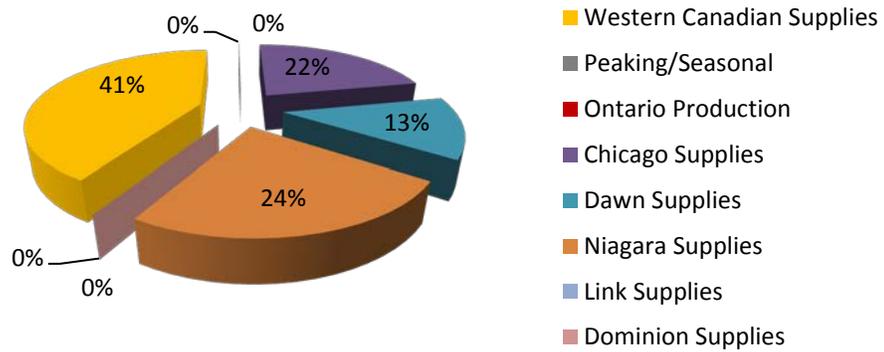
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Appendix 1

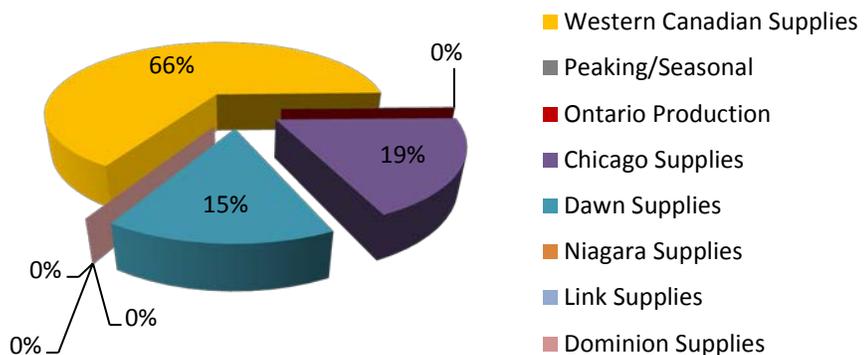
2017 Supply Portfolio Diversity



2016 Supply Portfolio Diversity

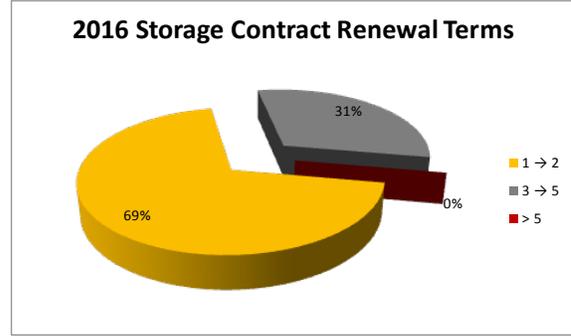
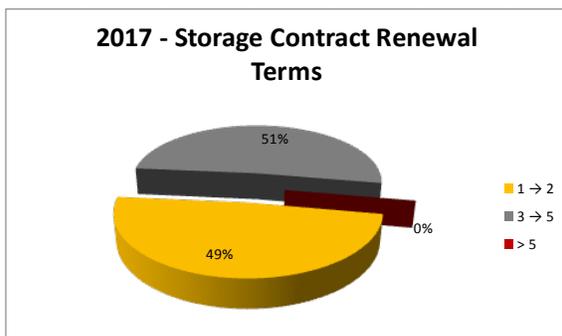
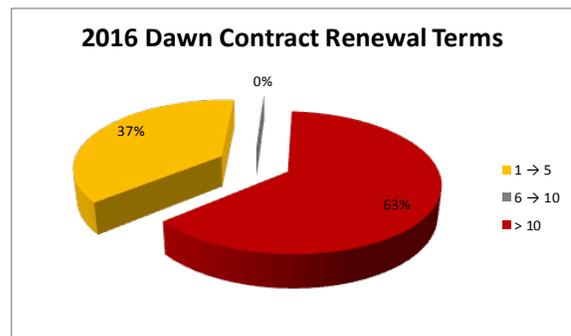
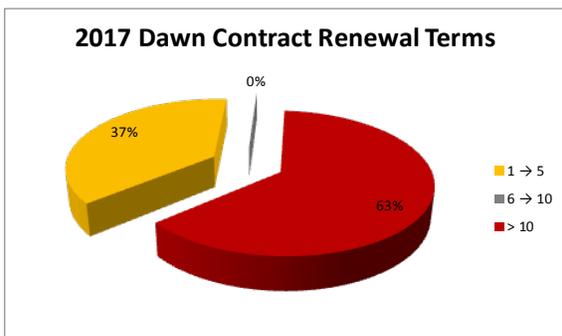
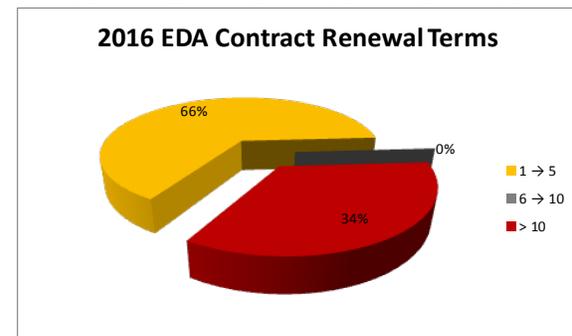
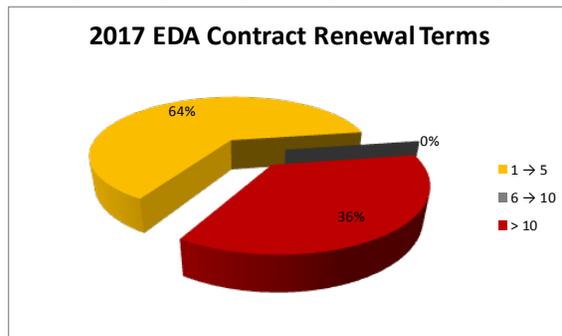
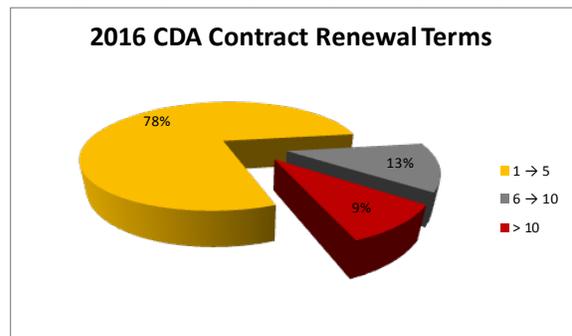
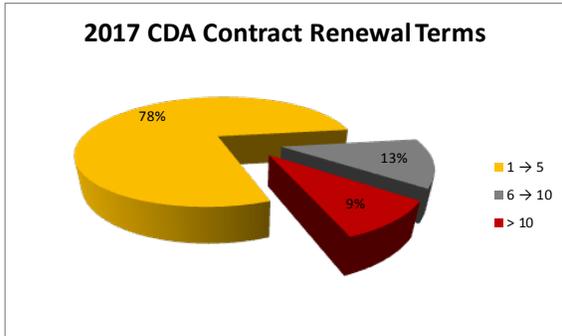


2015 Supply Portfolio Diversity



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Appendix 2



Witnesses: M. Kirk
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