

WASHINGTON GAS LIGHT COMPANY

**Agreed Upon Procedures Report for the
Purchased Gas Charge Quarterly Filings and Adjustment
Annual Filings for the Years Ended August 31, 2012,
2013, 2014, 2015, and 2016**



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Summary of the Report Structure

This report is divided into below sections:

Independent Public Accountant’s Report on Applying Agreed-Upon Procedures – Outlines overall responsibilities of all parties (Management of Washington Gas Light (“WGL”), the Commission, and SB & Company, LLC (“SBC”)) and discusses applicable attestation standards for agreed-upon procedures.

Background – Provides understanding of general information including overview of WGL, PGC, ACA purpose of the report, procedure performed, summary of results, summary of rates and summary of the report structure.

– – PGC Procedures Section – –

Mapping the Calculation of the PGC Filings – Provides a detail description of each line item of the PGC filing using a sample of the PGC filing and how the numbers relate in the filing.

PGC Agreed-Upon Procedures Summary – Provides a detail listing of the procedures performed by SBC for each line item of the PGC filings and a summary of exceptions noted.

Findings and WGL Response – Summarizes the findings on each procedure performed related to the agreed-upon procedures, and the response from the WGL’s managements.

– – ACA Procedures Section – –

Mapping the Calculation of the ACA Filings – Provides a detail description of each line item of the ACA filing using a sample of the ACA filing and how the numbers relate in the filing.

ACA Agreed-Upon Procedures Summary – Provides a detail listing of the procedures performed by SBC for each line item of the ACA filings and summary of exceptions noted.

Findings and WGL Response – Summarizes the findings on each procedure performed by SBC related to the agreed-upon procedures, and the response from the WGL’s managements.

– – Asset Optimization Revenue Procedures Section – –

Asset Optimization Revenue Procedures – Provides the detail procedures performed related to the asset optimization revenue and summary of exceptions noted.

Findings and WGL Response – Summarizes the findings on each procedure performed by SBC related to the agreed-upon procedures, and the response from the WGL’s managements.

– – Supplementary Schedules – –

Supplementary Schedules – Provides the selected PGC filings and ACA filings from 2016, 2015, 2014, 2013 and 2012.



SB & COMPANY, LLC
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Independent Public Accountant's Report on Applying Agreed-Upon Procedures

To the Management of Washington Gas Light
and the District of Columbia Public Service Commission

We have performed the procedures enumerated as described in the Listings of Agreed Upon Procedures section on pages 8 to 10 and explained in more details in Exhibits B, E, and G, which were agreed to by Washington Gas Light Company ("WGL") and the District of Columbia Public Service Commission (the "Commission") on the Purchased Gas Charge (PGC) quarterly filings and Actual Cost Adjustment (ACA) annual filings in the District of Columbia for the years ended August 31, 2012, 2013, 2014, 2015, and 2016. WGL is responsible with complying with the terms set by the Commission, including the preparation, completion and filing of the PGC quarterly filings and ACA annual filings. The sufficiency of these procedures is solely the responsibility of those parties specified in this report. Consequently, we make no representation regarding the sufficiency of the procedures described in Exhibit either for the purpose for which this report has been requested or for any other purpose.

The procedures applied are included in the Listing of Agreed-Upon-Procedures Exhibits B, E, and G, and related findings are included in Exhibits C, F, and H.

This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. We were not engaged to and did not conduct an examination, the objective of which would be the expression of an opinion on the preparation, completion and filing of the PGC quarterly filings and ACA annual filings. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

We have included the accompanying "Background" section and supplemental schedules as listed in the accompanying table of contents to provide additional context to the Agreed-Upon Procedures and related exhibits. We did not perform any procedures on the Background section or supplemental schedules and make no comment as to the completeness, accuracy or appropriateness of such information.

WGL's response to findings are described in the Exhibits C, F, and H. WGL's response was not subjected to the procedures applied in the agreed-upon procedures and, accordingly, we express no comment on the completeness, accuracy, or appropriateness of such responses.

This report is intended solely for the information and use of (i) the board of directors and management of Washington Gas Light and (ii) the District of Columbia Public Service Commission and is not intended to be and should not be used by anyone other than these specified parties.

July 2, 2018
Washington, D.C.

SB & Company, LLC

Background

Background

Washington Gas Light Company

Washington Gas Light Company (“WGL”) is a regulated public utility that sells and delivers natural gas to retail customers in accordance with tariffs approved by regulatory commissions in the District of Columbia and adjoining areas in Maryland, Virginia and several cities and towns in the northern Shenandoah Valley of Virginia. WGL has been engaged in the natural gas distribution business since its incorporation by an Act of Congress in 1848. WGL has been a Virginia corporation since 1953 and a corporation of the District of Columbia since 1957.

WGL provides regulated distribution or delivery of natural gas to retail customers under tariff rates designed to provide for a return on and return of the investment used in providing that service. The rates are also designed to provide for recovery of operating expenses and taxes incurred in providing that service. WGL also sells natural gas to customers who have not elected to purchase natural gas from unregulated third party marketers. WGL recovers the cost of the natural gas purchased to serve firm customers through recovery mechanisms as approved in jurisdictional tariffs.

WGL, under its asset optimization program, makes use of storage and transportation capacity resources when those assets are not required to serve utility customers. The objective of this program is to derive a profit to be shared with its utility customers. These profits are earned by entering into commodity-related physical and financial contracts with third parties

Purchased Gas Charge

WGL’s Purchased Gas Charge (“PGC”) is the net amount WGL charges for each therm of natural gas supply service provided to customers who receive default natural gas supply service. The PGC reflects the combined calculation of the various costs of natural gas purchases and the cost for transporting the purchased gas through the natural gas pipelines to WGL’s city gates for distribution. Consequently, natural gas supply service costs include the cost for the natural gas that WGL purchases from the various suppliers transported in natural gas pipelines, the cost of natural gas withdrawn from storage, various demand costs charged by various suppliers, and other adjustments allowed by the Public Service Commission of the District of Columbia (“the Commission”). The natural gas supply that is acquired for default service is acquired by the default provider pursuant to the Commission approved tariff. The costs are primarily derived from market prices as dictated by the New York Mercantile Exchange (“NYMEX”). Consistent with industry practices, the Commission allows the pass-through of PGC costs to District of Columbia default service ratepayers, on a dollar-for-dollar basis, in accordance with tariffs the WGL files with the Commission. The Commission generally monitors WGL’s PGC by reviewing the quarterly PGC filings. These quarterly PGC filings reflect the applicable retail rates based on the latest available actual and forecasted data.

Purpose of the Report

The Commission released order number 17826, which opened an investigation into the default gas service provided by WGL. Although the Commission monitors the gas costs of WGL through review of the quarterly PGC filings, the Commission elected to have a more in-depth review of the procedures used to calculate costs that are used to calculate customer charges on the monthly bills.

Background (continued)

Purpose of the Report (continued)

The Commission determined that the tasks to accomplish from the agreed upon procedures would be as follows:

- whether all aspects of the PGC are being calculated accurately and applied to the bills of default supply customers correctly;
- whether the items that are included in the PGC tariff are consistent with Commission Orders and if not, identifying those items that are not consistent with Commission Orders; and
- whether the asset management costs and revenue have been accurately calculated and recorded in the PGC.

Procedures Performed

Based on the request from the Commission, SB & Company, LLC (SBC) performed various procedures to:

- 1) determine whether the items that are included in the PGC tariff are consistent with the Commission orders and if not, identify those items that are not consistent with Commissions orders;
- 2) determine whether the assets management costs and revenue have been accurately calculated and recorded in the PGC; and
- 3) provide updates throughout the process and provide our review on any finding with WLG and the commission.

SBC read industry guidance and WGL documentation describing PGC filing and ACA filing calculation process. SBC walked through a random sample of PGC filing and ACA filing to understand the calculation and the components of the filings (See Exhibit A and D). We randomly selected a PGC filing per year, with total selections of five PGC filings for the five years ended August 31, 2016. SBC reviewed the supporting accounting information for each components of the PGC filings and agreed the applicability and support for the components included (See Exhibit B). SBC selected all the ACA filings (total of five filings) for the years ended August 31, 2012 to 2016. We obtained the supporting accounting information for each components of the PGC filings (See Exhibit E).

SBC used a statistical sampling method in selecting invoices and assumed a tolerable rate of deviation of expected population of 1% and a tolerable deviation rate of 5%. SBC used a statistical sampling method in selecting asset management revenue transactions and assumed a tolerable rate of deviation of expected population deviation rate of 0%, a tolerable deviation rate of 5%.

SBC agreed the selected transactions of natural gas cost per WGL accounting records, which were used to prepare the ACA filings to the supporting invoices.

Related to the application of PGC rate to the customers, SBC obtained the customer bills and compared the rate used in the customer bills to the approved PGC rate for the period.

Related to the asset management cost and revenue, SBC agreed the counter party invoices of the asset management cost and revenue to the underlying accounting records, which were used to prepare the ACA filings. We also obtained the annual calculation of the asset management cost and revenue, and recalculated the amount to be included to the ACA filings.

Background (continued)

Summary of Rates

The following schedule summarizes the rates in 2016, 2015, 2014, 2013, and 2012 in the PGC quarterly files and ACA annual filings.

Fiscal Year	PGC Rate Per Quarter				ACA Filing
	1st	2nd	3rd	4th	Year End Adjusting Rate
2012	\$0.6974	\$0.7653 A	\$0.5568	\$0.6484	\$0.0451
2013	0.5470	0.6131	0.6297	0.7609	-0.0319
2014	0.6032	0.5756	0.9398 B	0.7051	-0.0261
2015	0.5542	0.5866	0.6391	0.5742	-0.0362
2016	0.4820	0.3736 C	0.4195	0.4757	0.0094

A - The winter of 2012 was warmer than other years. The PGC had increased due to weather patterns over the prior years, but began decreasing in 2012 Q3.

B - The 2014 Q3 PGC was significantly higher due to extreme cold weather conditions, including a polar vortex. Actual gas purchases were larger than estimates causing the PGC to increase by 6% compared to prior quarter.

C – The D.C. area experienced a milder winter than usual causing the 2016 Q2 PGC rate to decrease.

Listing of Agreed Upon Procedures

Listing of Agreed Upon Procedures

As part of the Agreed-Upon Procedures (AUP) Agreement with SB& Company, LLC. (“SBC”), WGL and the Commission, SBC performed the following steps. See Exhibits B, E, and G for details on the procedures performed and Exhibit C, F, and H for our findings relate to the procedures performed.

I. Determine whether all aspects of the PGC are being calculated accurately and applied to the bills of default supply customers correctly.

A. Read industry guidance and WGL documentation describing PGC calculation process

SBC read the appropriate documentation that identifies the specific components of the PGC and how these components are to be calculated, including Commission Orders #17826, #17878, #17951, and #18640, the PGC Quarterly Filings, the supporting “PGC Workpapers”, and the PGC tariff, titled Washington Gas Light Company Rate Schedules and General Service Provisions in the District of Columbia (No. 3) issued on November 21, 2005.

B. Diagram PGC calculation process

SBC mapped the PGC calculation process and identified key decision points. SBC identified the key factors of the calculation in the PGC including the Actual Cost Adjustment (the “ACA”) determination that is performed annually. Refer to Exhibits A and D for the mapping of the PGC and ACA calculation.

C. Interview WGL staff:

SBC met with WGL staff to understand the calculations of the PGC and ACA filings. Refer to Exhibits A and D for the mapping of the PGC and ACA calculation.

D. Complete walkthrough:

SBC completed walkthroughs of the PGC and ACA filing process in order to fully understand the calculations of the PGC and ACA. Refer to Exhibits A and D for the mapping of the PGC and ACA calculation.

E. Determine the population of bills, and select a sample:

SBC identified the population of bills and selected a sample using a statistical sampling method.

F. Provide sample to WGL staff:

SBC selected a sample of customer bills (residential, commercial and industrial) and provided the sample to WGL staff.

G. Test the PGC calculation

SBC tested the calculation of 5 selected PGC filings between the first quarter of 2012 and the last quarter of 2016. SBC tested the calculation of the ACA filings for 2012 to 2016. SBC reviewed the supporting accounting information for the various components of the PGC and ACA and determining the applicability and reasonableness of the components included. Refer to Exhibits B and E for details on procedures performed. Refer to Exhibits C and F for Schedule of exception and management’s responses.

Listing of Agreed Upon Procedures (continued)

- I. Determine whether all aspects of the PGC are being calculated accurately and applied to the bills of default supply customers correctly. (continued)

H. Test the Application of PGC to Customer Bills

SBC selected a sample of customer bills (residential, commercial and industrial) and agreed the filed PGC factor to the PGC factor billed to the customers.

Refer to Exhibit B for detail on procedures performed. Refer to Exhibit C for summary of exception.

- II. Determine whether the items that are included in the PGC tariff are consistent with the Commission Orders, and if not, identify those items that are not consistent with Commissions Orders.

A. Read PGC Tariff and related Commission Orders:

SBC read the PGC tariff, titled Washington Gas Light Company Rate Schedules and General Service Provisions in the District of Columbia (No. 3) issued on November 21, 2005 and related Commission Orders, including Orders #17826, #17878, #17951, and #18640, to gain an understanding of the process.

B. Understand the process for including costs in the PGC tariff

SBC read WGL's documentation, including the PGC Quarterly Filings and the supporting "PGC Workpapers", that identified the specific components of the PGC and how these components are to be calculated. Refer to Exhibit A and D for the detail of the components of the PGC.

C. Interview WGL staff:

SBC met with WGL staff to understand the process of calculating the PGC and the methods for obtaining the various components.

D. Determine population of bills and select sample:

SBC determined the population and selected invoices for gas costs including: commodity purchases, demand charges, and storage capacity for various pipelines.

E. Provide sample to WGL staff

SBC provided a sample of invoices for gas costs including: commodity purchases, demand charges, and storage capacity for various pipelines to WGL staff.

F. Test the PGC calculation

SBC tested invoices for gas costs including: commodity purchases, demand charges, and storage capacity for various pipelines and agreed the gas costs recorded to the supporting invoices. Refer to Exhibits B and E for detail of the procedures performed. Refer to Exhibits C and F for schedule of exceptions and management's responses.

Listing of Agreed Upon Procedures (continued)

III. Determine whether the asset management costs and revenues have been accurately calculated and recorded in the PGC. We suggest performing the following.

A. Read documents describing management costs and revenues

SBC read documentation defining asset management costs and revenues that are allowable in the PGC.

B. Interview WGL staff

SBC met with members of WGL staff to understand the calculation and recording process of the asset management costs and revenues.

C. Complete walkthrough

SBC completed walkthroughs of the calculation and recording process of the asset management costs and revenues. Refer to Exhibits A and D for detail of the assets management cost and revenue.

D. Determine completeness/appropriateness of asset management costs and revenues

SBC determined the complete population of asset management costs and revenue by identifying the total revenue recorded for the year.

E. Provide sample to WGL staff

SBC selected a sample of counterparty invoices that included asset management costs and revenues and provided to WGL staff.

F. Test the PGC Calculation - Asset Management Costs and Revenue

SBC tested the asset management revenue calculation on counterparty invoices and agreed that the revenue recognized on the invoices was included in the monthly revenue reports. SBC agreed the asset optimization revenue from the monthly revenue report was included in the ACA filing. Refer to Exhibit G for detail of procedures performed. Refer to Exhibit H for schedule of exception and management reports.

IV. Provide updates throughout the process and provide our review any findings with WGL and the Commission.

A. Address exceptions:

SBC discussed exceptions identified in testing with WGL staff. Refer to Section IV.

B. Draft AUP report

SBC drafted the AUP report.

C. Review and discuss feedback

SBC performed this procedure.

D. Present final report:

SBC presented the final report to the Commission and will be available for follow up questions.

Executive Summary

Executive Summary

Agreed-Upon-Procedure:

- I. Determine whether all aspects of the PGC are being calculated accurately and applied to the bills of default supply customers correctly.

Methods Performed:

SBC identified the components of the PGC and obtained an understanding of the calculation through review of the quarterly filings and discussion with WGL management. SBC mapped out the components of the calculation (Refer to Exhibit A) as well as the Actual Cost Adjustment (“ACA”) that is filed annually (Refer to Exhibit D). SBC tested the components and calculation of five PGC filings between 2012 – 2016. The five filings were 2016 Quarter 2, 2015 Quarter 1, 2014 Quarter 1, 2013 Quarter 2 and 2012 Quarter 3. SBC also tested the calculation of five ACA filings for the years 2012, 2013, 2014, 2015, and 2016. SBC selected a statistical sample of customer bills (residential, commercial and industrial) and agreed the PGC amounts billed to the customer to the PGC factor that was filed with the Public Service Commission.

Exceptions:

With regards to testing the PGC and ACA calculations, SBC identified differences between estimated and actual costs (see results listed in Exhibit C – Exceptions #C – 3 through #C – 54). Estimated costs are based on historical estimates while the actuals can fluctuate based on actual weather results.

With regards to testing customer bills, SBC noted that bills from March, June and October 2012 could not be provided. Management responded that the bills prior to November 2012 had not been archived with a conversion to a new billing system. As a result, SBC chose alternate samples for testing. In addition, there was one customer bill that could not be located by management.

Conclusions:

With regards to testing the PGC and ACA calculations, WGL management believes that differences between estimates and actual are expected due to large fluctuations in weather patterns from year to year. SBC noted that WGL calculates an annual ACA factor that will adjust the next PGC filings to account for differences between actuals and estimates. As a result, SBC concluded that there is no impact on the rate calculation.

With regards to testing customer bills, SBC was not able to verify the accuracy of the selected invoices that could not be located; however, there was no indication that these invoices were incorrect. Since the dollar value of the unverified invoices were immaterial, SBC concludes that there would not be a material impact on the rate calculation.

Recommendations

None noted.

Executive Summary (continued)

Agreed-Upon-Procedure:

- II. Determine whether the items that are included in the PGC tariff are consistent with the Commission Orders, and if not, identify those items that are not consistent with Commission Orders.

Methods Performed:

SBC read the PGC tariff, titled Washington Gas Light Company Rate Schedules and General Service Provisions in the District of Columbia (No. 3) issued on November 21, 2005. In addition, SBC read the related commission orders, including #17826, #17878, #17951, and #18640. SBC obtained an understanding of the various components of the PGC through discussion with WGL management, review of the quarterly PGC filings as well the reviewing the supporting accounting records that are used to calculate the PGC factor. SBC selected transactions related to commodity purchases, demand charges, storage capacity and pipelines to determine if costs charged were properly supported by invoices.

Exceptions:

With regards to the testing of invoices, SBC identified one counterparty invoice that could not be located by management due to water damage at the storage facility.

Conclusions:

SBC was not able to verify the accuracy of the one missing invoice that could not be located; however, there was no indication that this invoice was incorrect. Since the dollar value of the unverified invoice was immaterial, SBC concludes that it would not have a material impact on the rate calculation.

Recommendations

None noted.

Executive Summary (continued)

Agreed-Upon-Procedure:

- III. Determine whether asset management costs and revenues have been accurately calculated and recorded in the PGC.

Methods Performed:

SBC obtained an understanding of the costs associated with asset management revenue and met with WGL management to obtain an understanding of the process. SBC obtained the total annual asset management revenue and costs and selected counterparty invoices that were included. SBC reviewed the invoices and tied the allocated asset management revenue portion to the monthly revenue reports.

Exceptions:

No exceptions noted.

Conclusions:

SBC tested the asset management revenue and costs without exception.

Recommendations

None noted.

Summary of Results

Summary of Results

We noted the following results during testing. Refer to Exhibit C and F for additional details.

Exception #	Description of Exception	Impact of Exception
C-1 C-2 C-3	WGL did not have access to customer bills prior to October 2012. Also, WGL cannot locate 1 of 77 selected customer bills from period after November 2012.	This has no impact for the rate calculation.
C-4, C-5, C-6, C-7, C-8,	SBC compared the estimated cost from the 2016 quarter 2 filing to the actual results and identified areas that had differences of more than 5%. The areas are Estimated Commodity Costs, Estimated Costs, Actual Firm Sales, Estimated Transportation Costs, Estimated Sales and Deliveries, and Demand Costs for Hampshire.	This has no impact for the rate calculation.
C-9, C-10, C-11, C-12, C-13, C-14,	SBC compared the estimated cost from the 2015 quarter 4 filing to the actual results and identified areas that had differences of more than 5%. The areas are Estimated Commodity Costs, Estimated Costs, Actual Firm Sales, Estimated Transportation Costs, Estimated Sales and Deliveries, and Demand Costs for Hampshire.	This has no impact for the rate calculation.
C-15, C-16, C-17, C-18, C-19,	SBC compared the estimated cost from the 2014 quarter 1 filing to the actual results and identified areas that had differences of more than 5%. The areas are Estimated Commodity Costs, Estimated Costs, Actual Firm Sales, Estimated Transportation Costs, Estimated Sales and Deliveries, and Demand Costs for Hampshire.	This has no impact for the rate calculation.
C-20, C-21, C-22, C-23, C-24, C-25, C-26, C-27, C-28, C-29, C-30, C-31, C-32, C-33, C-34, C-35	SBC compared the estimated cost from the 2013 quarter 2 filing to the actual results and identified areas that have differences of more than 5%. The areas are Estimated Commodity Costs, Estimated Costs, Actual Firm Sales, Estimated Transportation Costs, Estimated Sales and Deliveries, and Demand Costs for Hampshire.	This has no impact for the rate calculation.
C-36, C-37, C-38, C-39, C-40, C-41, C-42, C-43, C-44, C-45, C-46, C-47, C-48, C-49, C-50, C-51, C-52, C-53, C-54	SBC compared the estimated cost from the 2012 quarter 3 filing to the actual result and identified areas that had differences of more than 5%. The areas are Estimated Commodity Costs, Estimated Costs, Actual Firm Sales, Estimated Transportation Costs, Estimated Sales and Deliveries, and Demand Costs for Hampshire.	This has no impact for the rate calculation.
F -1	SBC noted that 1 of 77 counterparty invoices could not be located by Management.	This has no impact for the rate calculation.
F - 2	SBC noted that Management aims to keep the over/under collection of gas costs reported in the ACA filing within 2%. The analysis provided by Management showed that the System Wide over/under collection fluctuated between -3.5% to 2.61% between 2012 to 2016. The DC segment portion fluctuated between -6.15% and 7.53%. SBC recommends that WGL Management evaluate the different segments separately in determining the acceptable deviation.	This has no impact for the rate calculation.

Exhibits

Section I

Purchased Gas Charge (PGC)

Exhibit A:

Mapping the Calculation of the PGC Filings

As part of the AUP Procedure I – B, five PGC filings were randomly selected for the years 2012 through 2016, including 2016 Q2 (December 2015, January 2016 and February 2016), 2015 Q4 (June, July and August 2015), 2014 Q1 (September, October and November 2013), 2012 Q3 (December 2012, January and February 2013), and 2012 Q3 (March, April and May 2012) for further testing. Through discussion with WGL staff, SBC obtained and understood and documented the various components of the PGC cost. The main components of the PGC factor are the Current Cost of Gas, which includes the gas purchases from third parties (such as commodity, transportation or demand charges) as well as the GAC (Gas Administrative Charge). In addition, the PGC includes the Actual Cost Adjustment factor – refer to Exhibit D for the calculation of the ACA factors.

The following Schedules A – C listed below map out the various components of the PGC calculation for 2016 Q2. The same methodology was used to test 2015 Q4, 2014 Q1, 2012 Q3, and 2012 Q3.

Schedule A

Firm Purchased Gas Charge Statement; Billing Months of December 2015, January and February 2016

Line No.	Description	PGC Amount per Therm	Reference	Description of the line item
1	<u>FIRM PURCHASED GAS CHARGE</u>			
2	<u>Current Cost</u>			
3	Exhibit I, Schedule A, Current Cost	\$ 0.3899	Exhibit A Schedule B	Average cost per therm of purchasing gas from different suppliers and contracts, including gas purchases, peak shaving, transportation, and storage less asset optimization revenue sharing
4	Gas Administrative Charge (GAC)	0.0174	Exhibit A Schedule C-1	Gas cost related to uncollectible and gas administrative expenses (i.e. certain salaries) as a percentage of total normal weather therm sales shows the per therm recovery of uncollected gas account
5	Net Current Cost	0.4073		Recalculated Line 3 + Line 4
6	<u>Actual Cost Adjustment</u>			
7	Letter to Commission (November)			
8	Exhibit I, Page 1, Line 9	(0.0362)	Exhibit D Schedule A	The true up between the actual cost and projected cost from PGC from the prior year. Amount calculated at the last year ACA filing that is tested separately at the ACA procedures.
9	Letter to Commission (February)			
10	Schedule E, Column B, Line 25	0.0025	Note 1	The true up between actual usage and projected usage from PGC from 2 year prior
11	Net Actual Cost Adjustment	(0.0337)		Recalculated Line 9 + Line 10
12	<u>Net Purchased Gas Charge</u>	\$ 0.3736		Recalculated Line 5 + Line 11

Note 1 – Agreed amount to the Letter to Commission for the PGC Filing 11/29/15 (Q2 2016)

Exhibit A (continued):

The current cost factor listed in the Schedule B is a calculation of the cost per therm and is made up of the commodity costs, demand costs, carrying charges on prepaid gas and the asset optimization revenue sharing. SBC recalculated the cost components of the current cost of gas with no exception.

Schedule B

Computation of Current Purchased Gas Charge Factor; Billing Months of December 2015, January and February 2016

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Line 3, 4, 8, 9 and 10 in Schedule B show the purchases related to natural gas and are calculated as the weighted average cost per therm from all suppliers for commodity and storage on a normal contract. SBC agreed the rates and volumes to the accounting system records to determine that the aspects of the PGC are being calculated accurately.

Exhibit A (continued):

Analytical procedures were performed on each of the three billing months in the PGC filing for Line 3 on Schedule B. The natural gas charges include the cost to insert hexane into dry cast, commodity purchase on the pipelines (including Columbia FT, Transco FT and DTI FT) and the storage withdrawals. Each line is measured on a per therm basis and includes the estimated costs. When actuals are available, the costs will include actual costs and an estimated projection for future periods. The rates used to calculate the cost for the first month of each filing are based on the most current available NYMEX rate at the date of the filing. WGL projects the actual rate forward to calculate an estimated rate for the following two months. SBC performed the analytic for each of the months in the quarterly filing by calculating the weighted average by cost type. For each filing, SBC recalculated the Natural Gas purchases by therm without exception by using the weighted average rate and weighted average of volume.

Schedule B – 1-1 SBC Analytical Procedure on Natural Gas Purchases

Line	Description	Weighted Average Cost	Total Volume	% of total (Volume)	Weighted Average	Description of Line Item	Reference
1	December 15	\$ 2.4983	\$ 16,144,291	31.41%	\$ 0.7847	Weighted average costs and volume for December 2015	Schedule B - 1 - 2
2	January 16	2.5558	18,831,677	36.64%	0.9364	Weighted average costs and volume for January 2016	Schedule B - 1 - 3
3	February 16	2.5614	16,422,576	31.95%	0.8184	Weighted average costs and volume for February 2016	Schedule B - 1 - 4
5	Total Qtr.		51,398,544		2.5395		
6	Factor to Convert from Dry Dth to Wet Therms				0.10177	Factor used by management to convert Dry therms to Wet Therms	
7	Weighted Average Gas Purchases (converted to Wet Therms)				0.2584	Recalculated Line 5 multiplied by Line 6	
8	Adjust for unaccounted for 3.5%				3.50%	Adjustment for unaccounted for gas purchases	
9	Natural Gas Purchases				\$ 0.2678	Recalculated Line 7 divided by 1 less Line 8	Schedule B Line 3

Exhibit A (continued):

Schedule B – 1-2

Projected Quarterly Commodity Purchased Gas Cost for the Billing Month of December 2015

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Exhibit A (continued):

Schedule B – 1-3

Projected Quarterly Commodity Purchased Gas Cost for the Billing Month of January 2016

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Exhibit A (continued):

Schedule B – 1-4

Projected Quarterly Commodity Purchased Gas Cost for the Billing Month of February 2016

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Exhibit A (continued):

For Line 4 on the Schedule B, SBC reviewed the quarterly computation of estimated annual other commodity costs related to peak shaving and tied the rates and volumes to the supporting accounting record.

Schedule B – 2
Computation of Estimated Annual Other Commodity Costs - Peak Shaving

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SBC compared the Actual Determination Period Firm Therm Sales to the actual numbers for the period and noted that the actuals were 25% less than estimated. Per review of weather studies, SBC noted that the winter weather in 2015/2016 was warmer than expected so actual usage was lower than expected. Actual usage can fluctuate based on weather, while the estimation is based on normal weather as well as historical weather patterns.

Exhibit A (continued):

The demand component of the Current Purchased Gas Charge are shown on Lines 7 to 11 on the Schedule B and include the firm transportation costs, storage, capacity and peak shaving costs. WGL calculates the total costs and calculates a rate per therm by using an estimated sales and delivery amount which is based on a 5 year weather study. Schedule B – 3 (Part 1 through Part 3) includes the costs allocated to DC.

Schedule B – 3 (Part 1)

Summary of Estimated Demand Costs; Billing Months of December 2015, January and February 2016

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Exhibit A (continued):

Schedule B – 3 (Part 2)

Summary of Estimated Demand Costs; Billing Months of December 2015, January and February 2016

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Exhibit A (continued):

Schedule B – 3 (Part 3)

Summary of Estimated Demand Costs; Billing Months of December 2015, January and February 2016

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Exhibit A (continued):

On Line 12 of the Schedule B, the carrying charges represents average costs per therm for carrying prepaid gas. It is calculated using a 13 month rolling average. SBC agreed the charges by pipeline to the accounting records at WGL and noted no exceptions.

Schedule B – 4

Computation of Estimated Annual Demand Costs - Billing Months of December 2015, January and February 2016

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The Actual Determination Period Firm Therm Sales of \$133,411,000 in Schedule B - 4 (above) represent estimated therm sales for DC for the next 12 months. SBC compared the estimated therm sales to the actual for the period and noted that the estimate was within 1% of the actual.

Exhibit A (continued):

Line 13 on Schedule B represents the Asset Optimization Revenue Sharing which is calculated as a per therm share of the asset optimization revenue for the District of Columbia (“DC”) based on a 3 year average. SBC reviewed the revenue recognized for the 3 prior years and recalculated the average.

Schedule B – 5

Estimated Asset Optimization Revenue Sharing Calculation

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Exhibit A (continued):

Line 4 on Schedule A represents the Gas Administrative Charge (GAC) which is gas cost related to uncollectible gas and administrative expenses (ie. salaries) as a percentage of total normal weather therm sales.

Schedule C – 1 Gas Administrative Charge Calculation

Line No.	Description	Amount	Reference	Description
1	Gas cost related to uncollectible	\$ 2,175,992		Gas costs related to uncollectible costs
2	Gas Administrative Expense	<u>113,960</u>		Costs associated with administrative expenses
3	Total Cost	2,289,952		
4	Total Firm Normal Weather Therm Sales	<u>131,339,032</u>		12 months of normal weather therm sales (WGL)
5	GAC Rate	<u>\$ 0.0174</u>	Exhibit A Schedule A, Line 4	Recalculation Line 3 / Line 4

Exhibit A (continued):

SBC recalculated an estimated percentage of uncollectible gas by taking the current cost divided by the GAC. SBC then compared the total PGC revenue collected from customers to the GAS to the total uncollectible from gas customers for the quarter. Management informed SBC that the difference of 0.2% is likely due to rounding.

Schedule C – 2 SBC Analytic on the Gas Administrative Charge

Line No.	Description	2016 Q2	Reference	Description of the line item
1	Current Cost	\$ 0.3899	Exhibit A Schedule A	Average cost per therm of purchasing gas from different suppliers and contracts, including gas purchases, peak shaving, transportation, and storage less asset optimization revenue sharing
2	Gas Administrative Charge (GAC)	0.0174	Exhibit A Schedule A	Gas cost related to uncollectible and gas administrative expenses (i.e. certain salaries) as a percentage of total normal weather therm sales shows the per therm recovery of uncollected gas account
3	Estimated % of uncollectable	<u>4.5%</u>		Percentage of per therm uncollected amount to the total average gas purchasing cost per therm
4	Total PGC Revenue from Gas Customer	\$ 46,775,284		Actual gross revenue from recovery of gas purchased billed to customers
5	Total Uncollectable from Gas Customer	<u>2,175,992</u>		Actual uncollected amount related to gas purchased billed to customers
6	% of uncollectable	<u>4.7%</u>		Percentage of per therm uncollected amount to the total average gas purchasing cost per therm. Recalculated Line 5 divided by Line 4
7	Difference	<u>-0.2%</u>		

Exhibit B:

PGC – Agreed-Upon Procedures Summary

SBC performed the following AUP procedures on the PGC filings (2016 Quarter 2, 2015 Quarter 4, 2014 Quarter 1, 2013 Quarter 2, and 2012 Quarter 3).

Schedule A

Firm Purchased Gas Charge Statement

Exhibit A Line Reference			AUP Procedures				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
A	3	Exhibit I, Schedule A, Current Cost	1	SBC agreed the amount to the detail calculation at Exhibit B, Schedule B, Line 14.	AUP #1 - G	Exhibit A Schedule B	No exceptions noted.
A	4	Gas Administrative Charge (GAC)	2	SBC agreed the amount to the detail calculation at Exhibit B, Schedule C, Line 5.	AUP #1 - G	Exhibit A Schedule C-1	No exceptions noted.
A	7 to 8	Letter to Commission (November) Exhibit I, Page 1, Line 9	4	SBC agreed the amount to the applicable ACA filing	AUP #1 - G	Prior Filing of ACA	No exceptions noted.
A	9 to 10	Letter to Commission (February) Schedule E, Column B, Line 25	5	SBC agreed the amount to the applicable PGC filing	AUP #1 - G	Prior Filing of PGC	No exceptions noted.
A	11	Net Actual Cost Adjustment	6	SBC recalculated as sum of Line 8 and Line 10	AUP #1 - G	N/A	No exceptions noted.
A	12	Net Purchased Gas Charge	7	SBC agreed the final PGC rate per the PGC filing to the customer bills.	AUP #1 - G and H	N/A	C - 1 C - 2 C - 3

Exhibit B (continued):

Schedule B Computation of Current Purchased Gas Charge Factor

Exhibit A Line Reference			AUP Procedures				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
B	1 to 3	Natural Gas Purchases	8	SBC agreed the amount to the detail calculation at Exhibit B, Schedule B-1, Line 8.	AUP #1 - G	Exhibit A Schedule B - 1- 1	No exceptions noted.
B	4	Peak Shaving	9	SBC agreed the amount to the detail calculation at Exhibit B, Schedule B-2, Line 7	AUP #1 - G	Exhibit A Schedule B-2	No exceptions noted.
B	5	Commodity Market Adjustment Factor	10	SBC reviewed the calculation of ACA balance as a percentage of gas cost to confirm that factors are within +/- 2%.	AUP #1 - G	N/A	No exceptions noted.
B	6	Total Commodity	11	SBC recalculated as sum of Line 1 to Line 5.	AUP #1 - G	N/A	No exceptions noted.
B	7 to 8	Firm Transportation	12	SBC agreed the amount to the detail calculation at Exhibit B, Schedule B-3, Line 1-5.	AUP #1 - G	Exhibit A Schedule B -3	No exceptions noted.
B	9	Storage	13	SBC agreed the amount to the detail calculation at Exhibit B, Schedule B-3, Line 20.	AUP #1 - G	Exhibit A Schedule B -3	No exceptions noted.
B	10	Peak Shaving	14	SBC agreed the amount to the detail calculation at Exhibit B, Schedule B-3, Line 23-26.	AUP #1 - G	Exhibit A Schedule B -3	No exceptions noted.
B	11	Total Demand	15	SBC recalculated in the same manner as WGL as the sum of Line 8 to Line 11.	AUP #1 - G	N/A	No exceptions noted.
B	12	Carrying Charges on Prepaid Gas	16	SBC agreed the amount to the detail calculation at Exhibit B, Schedule B-4, Line 18h.	AUP #1 - G	Exhibit A Schedule B -4	No exceptions noted.
B	13	Asset Optimization Revenue Sharing	17	SBC agreed the amount to the detail calculation at Exhibit B, Schedule B-5, Line 3.	AUP #1 - G	Exhibit A Schedule B-5	No exceptions noted.
B	14	Total "Current Cost" of Gas	18	SBC recalculated as sum of Line 6, Line 11, Line 12 less Line 13	AUP #1 - G	N/A	No exceptions noted.

Exhibit B (continued):

Schedule B – 1 Projected Quarterly Commodity Purchased Gas Cost

Exhibit A Line Reference			AUP Procedures				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
B-1-2	1a	Hexane Rate	19	SBC compared the estimated Hexane usage to the actual Hexane usage.	AUP #1 - G	N/A	No exceptions noted.
B-1-2	1b	Hexane Volume	20	SBC compared the estimated Hexane usage to the actual Hexane usage.	AUP #1 - G	N/A	No exceptions noted.
B-1-2	2 - 5 a	Commodity Purchases Rate	21	SBC agreed the rate to the NYMEX rate.	AUP #1 - G	N/A	No exceptions noted.
B-1-2	2 - 5 b	Commodity Purchases Volume	22	SBC compared the estimated commodity purchase usage to the actual usage.	AUP #1 - G	N/A	C-20, C-25, C-26, C-27, C29, C-30, C-36, C-37, C-43, C44, C-45, C-47, C-48
B-1-2	6 - 12 a	Storage Withdrawals Rate	23	SBC agreed the storage rate to accounting record.	AUP #1 - G	N/A	No exceptions noted.
B-1-2	6 - 12 b	Storage Withdrawals Volume	24	SBC compared the estimated storage withdrawals usage to the actual usage.	AUP #1 - G	N/A	C-21, C-22, C-23, C-24, C-28, C-31, C-38, C-39, C-40, C-41, C-42, C-46
B-1-1	5	Weighted Average of Rate	25	SBC recalculated the weighted average rate based on the hexane rate, hexane volume, commodity purchases rate, commodity volume, storage withdrawals rate, and storage withdrawals volume on Line 1a, to 3b.	AUP #1 - G	N/A	No exceptions noted.
B-1-1	6	Factor to Convert from Dry Dth to Wet Therms	26	SBC agreed the ratio of dry therm to wet therms to public research.	AUP #1 - G	N/A	No exceptions noted.
B-1-1	7	Conversion Factor Dry to Wet Therms	27	SBC recalculated the converted wet therms factor using Line 5 times Line 6.	AUP #1 - G	N/A	No exceptions noted.
B-1-1	8	Adjust for unaccounted for rate	28	SBC agreed the amount of the unaccounted for rate to the calculation provided by WGL staff.	AUP #1 - G	N/A	No exceptions noted.
B-1-1	9	Natural Gas Purchases	29	SBC recalculated the natural gas purchases amount using Line 7 times 1 less Line 8.	AUP #1 - G	N/A	No exceptions noted.

Exhibit B (continued):

Schedule B – 2

Computation of Estimated Annual Other Commodity Costs – Peak Shaving

Exhibit A Line Reference			AUP Procedures				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
B - 2	1a	Cove Point LNG Volume	30	SBC compared the volume to the prior period actual usage.	AUP #1 - G	N/A	No exception noted.
B - 2	1b	Cove Point LNG Rate	31	SBC compared the rate used to the prior year rate.	AUP #1 - G	N/A	No exception noted.
B - 2	1c	Cove Point LNG Cost	32	SBC recalculated amounts as line 1a times line 1b.	AUP #1 - G	N/A	No exception noted.
B - 2	2a	Propane Gasified Volume	33	SBC compared the volume to the prior period actual usage.	AUP #1 - G	N/A	No exception noted.
B - 2	2b	Propane Gasified Rate	34	SBC compared the rate used to the prior year rate.	AUP #1 - G	N/A	No exception noted.
B - 2	2c	Propane Gasified Cost	35	SBC recalculated amounts as line 2a times line 2b.	AUP #1 - G	N/A	No exception noted.
B - 2	3	Total Costs	36	SBC recalculated amounts as line 1c plus line 2c.	AUP #1 - G	N/A	No exception noted.
B - 2	4	DC Allocation	37	SBC agreed the firm sales of DC and the System to WGL accounting record and recalculated the allocation rate.	AUP #1 - G	N/A	No exception noted.
B - 2	5	Total DC Cost	38	SBC recalculated amounts as line 3 times line 4.	AUP #1 - G	N/A	No exception noted.
B - 2	6	Actual Determination Period Firm Therm Sales (Estimated)	39	SBC compare the estimated firm sales to the actual firm sale for the period.	AUP #1 - G	C-4 C- 32	No exception noted.
B - 2	7	Rate per Therm	40	SBC recalculate amounts as line 5 divided by line 6.	AUP #1 - G	N/A	No exception noted.

Exhibit B (continued):

Schedule B – 3 Summary of Estimated Demand Costs

Exhibit A Line Reference			AUP Procedures				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
B - 3	1 - 5	Firm transportation	41	SBC compared actual total firm transportation to budgeted.	AUP #1 - G	N/A	C-5, C-9, C15, C-33, C49
B - 3	6, 21, 27	Estimated sales and deliveries	42	SBC compared to actual sales and deliveries.	AUP #1 - G	N/A	C - 6, C- 10 C- 16, C- 51
B - 3	7	Firm transportation - Rate per therm	43	SBC recalculated amounts as line 5 divided by line 6 and compared to budgeted.	AUP #1 - G	N/A	C - 5
B - 3	9 - 12	Demand	44	SBC compared actual total demand to budgeted.	AUP #1 - G	N/A	C - 11
B - 3	14 - 18	Capacity	45	SBC compared actual total capacity to budgeted.	AUP #1 - G	N/A	C - 34
B - 3	19	Hampshire	46	SBC compared actual Hampshire to budgeted.	AUP #1 - G	N/A	C - 7, C - 12 C - 17, C - 52
B - 3	20	Total storage	47	SBC recalculated amounts by adding lines 13, 18, and 19 and compared to budgeted.	AUP #1 - G	N/A	No exception noted.
B - 3	22	Storage - Rate per therm	48	SBC recalculated amounts as line 20 divided by line 21.	AUP #1 - G	N/A	No exception noted.
B - 3	23 - 26	Peak Shaving	49	SBC compared actual peak shaving to budgeted.	AUP #1 - G	N/A	C - 8, C - 13 C - 53
B - 3	28	Peak shaving - Rate per therm	50	SBC recalculated amounts as line 26 divided by line 27 and compared to budgeted.	AUP #1 - G	N/A	No exception noted.

Exhibit B (continued):

Schedule B – 4
Computation of Estimated Annual Demand Costs

Exhibit A Line Reference			AUP Procedures				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
B - 4	1 - 12	Carrying charges on prepaid gas costs	51	SBC compared the prepaid cost to accounting system of actual prior period cost.	AUP #1 - G	N/A	No exception noted.
B - 4	13	DC Pre tax rate of return	52	SBC agreed the rate to the settled rate from the Formal Case Number 1093.	AUP #1 - G	N/A	No exception noted.
B - 4	14	District of Columbia Cost	53	SBC recalculated as the factor of line 12 and line 13.	AUP #1 - G	N/A	No exception noted.
B - 4	15	DC Allocation factor	54	SBC compared the DC allocation factor in the PGC to the allocation factor used in the ACA.	AUP #1 - G	N/A	No exception noted.
B - 4	16	Actual determination period firm therm sales (estimated)	55	SBC compared the estimated firm therm sales to actual.	AUP #1 - G	C-14, C-18 C-35, C-54	No exception noted.
B - 4	17	Rate per therm	56	SBC recalculated amounts as the factor of line 15 and line 16.	AUP #1 - G	N/A	No exception noted.

Exhibit B (continued):

Schedule B – 5
Estimated Asset Optimization Revenue Sharing Calculation

Exhibit A Line Reference			AUP Procedures				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
B - 5	5	Average actual asset optimization revenue	57	SBC agreed the revenue sharing to accounting record.	AUP #1 - G	N/A	No exception noted.
B - 5	6	Projected annual firm therm sales	58	SBC agreed to ACA filing.	AUP #1 - G	N/A	No exception noted.
B - 5	7	Estimated asset optimization revenue sharing	59	SBC recalculated as line 5 divided by line 6.	AUP #1 - G	N/A	No exception noted.

Exhibit B (continued):

Schedule C-1
Gas Administrative Charge Calculation

Exhibit A Line Reference			AUP Procedures				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
C - 1	1	Gas cost related to uncollectible	60	SBC agreed amounts to accounting record.	AUP #1 - G	N/A	No exception noted.
C - 1	2	Gas Administrative Expense	61	SBC agreed amounts to accounting record.	AUP #1 - G	N/A	No exception noted.
C - 1	3	Total Cost	62	SBC recalculated amounts as the sum of lines 1 and 2.	AUP #1 - G	N/A	No exception noted.
C - 1	4	Total Firm Normal Weather Therm Sales	63	SBC agreed amounts to accounting record.	AUP #1 - G	N/A	No exception noted.
C - 1	5	GAC Rate	64	SBC recalculated amounts as line 3 divided by line 4.	AUP #1 - G	PGC	No exception noted.

Exhibit B (continued):

Schedule C-2
SBC Analytic on the Gas Administrative Charge

Exhibit A Line Reference			AUP Procedures				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
C - 2	1	Current Cost	65	SBC agreed to PGC.	AUP #1 - G	N/A	No exception noted.
C - 2	2	Gas Administrative Charge (GAC)	66	SBC agreed to PGC.	AUP #1 - G	N/A	No exception noted.
C - 2	3	Estimated % of uncollectable	67	SBC recalculated amounts as line 2 divided by line 1.	AUP #1 - G	N/A	No exception noted.
C - 2	4	Total PGC Revenue from Gas Customer	68	SBC agreed to the revenue of gas for the quarter.	AUP #1 - G	N/A	No exception noted.
C - 2	5	Total Uncollectable from Gas Customer	69	SBC agreed to the total uncollectable for the quarter.	AUP #1 - G	N/A	No exception noted.
C - 2	6	% of uncollectable	70	SBC recalculated amounts as line 5 divided by line 4.	AUP #1 - G	N/A	No exception noted.
C - 2	7	Difference of estimated % of uncollectible and actual.	71	SBC reviewed reasonableness of uncollectable with the % of uncollectible by quarter and compared to the actual.	AUP #1 - G	N/A	No exception noted.

Exhibit B (continued):

Schedule D
Methodology of true up on therm

Exhibit A Line Reference			AUP Procedures				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
N/A	N/A	True up	72	SBC recalculated amounts by adding the true up on gas cost and true up on therm sales per PGC.	AUP #1 - G	N/A	No exception noted.
N/A	N/A	ACA adjustment (true up on cost)	73	SBC recalculated the adjustment filed in the previous year, using the budgeted number of therm sales for the future 12 months.	AUP #1 - G	N/A	No exception noted.
N/A	N/A	Additional ACA adjustment (true up on therm sales)	74	SBC recalculated the adjustment that will be used in the following year using the actual therm sales.	AUP #1 - G	N/A	No exception noted.
N/A	N/A	ACA adjustment (true up on cost)	75	SBC recalculated the adjustment that was filed 2 years previously.	AUP #1 - G	N/A	No exception noted.
N/A	N/A	Additional ACA adjustment (true up on therm sales)	76	SBC recalculated amounts as the difference between the Updated ACA Adjustments and the Adjusted on last ACA calculation.	AUP #1 - G	N/A	No exception noted.

Exhibit C

Schedule of Exceptions and Management's Response

Schedule A

Schedule of Exceptions and Management's Response

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Section II

Actual Cost Adjustment (ACA)

Exhibit D:

Mapping the Calculation of the ACA Filings

As part of the AUP Procedure I – B, five ACA filings were selected covering the years 2012 to 2016. Through discussion with WGL staff and review of supporting calculations, SBC obtained an understanding of the ACA filings. The ACA represents a year-end adjustment calculated by comparing estimated costs to actuals at year end (August 31). WGL calculated the over or under-billing to the customers and determines an adjustment to be applied to the next four quarterly PGC filings. The adjustment is applied to the PGC surcharge which is passed through to the customer.

Schedule A

Determination of Actual Cost Adjustment (ACA) Factor Based on the Twelve Months Ended August 31, 2015

Line No.	Description	Amount	Reference	Description of the line item
1	Cost of Gas Purchased	\$ 78,508,681	Exhibit D Schedule B	Actual Cost of purchasing gas for the year
2	Collections from Firm Customers	83,336,454	Exhibit D Schedule C	Amount of actual collection received from the customers
3	<u>Calculation of ACA Factor</u>			
4	Under/(Over) Collection of Gas Costs	(4,827,773)		Recalculated Line 1 - Line 2
5	Estimated Firm Therm Sales for the ACA Period	133,411,000	Exhibit A Schedule B - 5	Estimated number of firm therm sales
6	Actual Cost Adjustment Rate per Therm	(0.0362)	Exhibit A Schedule A	Recalculated Line 4 divided by Line 5

Exhibit D (continued):

The ACA filing for 2016 shows the total gas purchases for the System including Maryland, Virginia and DC. Schedule B shows the allocation of the system costs to DC based on an allocation percentage of 14.21%. The allocation varies each year and is based on an allocation calculation performed by WGL. SBC reviewed the accounting system support for the total System Cost of Gas and recalculated the allocated DC portion without exception.

Schedule B

Determination of Actual Cost Adjustment (ACA) Factor DC Based on the Twelve Months Ended August 31, 2015

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Exhibit D (continued):

Schedule B-1-1

**Determination of Average Cost per Dth – Commodity
Based on the Twelve Months Ended August 31, 2015**

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Exhibit D (continued):

Schedule B-1-2

Determination of Total Therm Sales Allocation Factors

Based on the Twelve Months Ended August 31, 2015

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Exhibit D (continued):

Schedule B-2 (Part 1)
Detailed Calculation of DC allocation factors
Based on the Twelve Months Ended August 31, 2015

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Exhibit D (continued):

Schedule B-2 (Part 2)
Detailed Calculation of DC allocation factors
Based on the Twelve Months Ended August 31, 2015

Line No.	Description	Amount	Reference	Description of the line item
13	Weather Gas			
14	System Amount of Weather Gas	\$ 61,768,808		Recalculated line 8 less line 11
15	DC Peak Day Base Gas Allocation	0.1510		Allocation factor for DC based on Firm Weather Gas
16	Total Peak Day Base Gas	9,327,089	Exhibit D, Schedule B	Recalculated line 14 multiplied by line 15
17	<u>Storage Demand</u>			
18	Actual Storage Demand Cost	74,602,489		Actual cost of actual storage for the year for the system (including DC, MD, and VA)
19	DC Allocation Peak Day Weather Gas Factor	0.1510		Allocation factor for DC based on Firm Weather Gas
20	DC Allocated Cost of Storage Demand	11,264,975	Exhibit D, Schedule B	Recalculated line 18 multiplied by line 19
21	<u>Storage Capacity Cost</u>			
22	Actual Cost of Storage Capacity Cost	33,884,663		Actual cost of actual storage capacity cost for the year for the system (including DC, MD, and VA)
23	DC Allocation Peak Day Weather Gas Factor	0.1754		Allocation factor for DC based on Peak Day Weather Gas
24	DC Allocated Cost of Storage Capacity	5,943,370	Exhibit D, Schedule B	Recalculated line 22 multiplied by line 23
25	<u>Hampshire Gas Company</u>			
26	Actual Cost of Hampshire Gas Company	5,969,109		Actual cost of actual Hampshire cost for the year for the system (including DC, MD, and VA)
27	DC Allocation Weather Gas Factor	0.1674		Allocation factor for DC based on Weather Gas
28	DC Allocated Cost of Storage Capacity	999,231	Exhibit D, Schedule B	Recalculated line 26 multiplied by line 27
29	<u>Peak Shaving Demand</u>			
30	Actual Cost of Peak Shaving Demand	13,545,003		Actual cost of peak shaving demand cost for the year for the system (including DC, MD, and VA)
31	DC Allocation Firm Weather Gas Factor	0.1505		Allocation factor for DC based on Firm Weather Gas
32	DC Allocated Cost of Storage Capacity	2,038,522	Exhibit D, Schedule B	Recalculated line 30 multiplied by line 31

Exhibit D (continued):

Schedule B-2 (Part 3)
Detailed Calculation of DC allocation factors
Based on the Twelve Months Ended August 31, 2015

Line No.	Description	Amount	Reference	Description of the line item
33	<u>Demand Capacity Release</u>			
35	Actual Cost of Demand Capacity Release - Storage Demand	\$ (2,846,853)		Actual cost of actual demand capacity release for the year for the system (including DC, MD, and VA)
36	DC Allocation Peak Day Weather Gas Factor	0.1510		Allocation factor for DC based on Peak Day Weather Gas
37	DC Allocated Cost of Storage Capacity	(429,874)		Recalculated Line 35 * Line 36
38	Actual Cost of Demand Capacity Release - Transportation	(1,927,088)		Actual cost of actual demand capacity release for the year for the system (including DC, MD, and VA)
39	DC Allocated Credit of Demand Capacity Release	(2,356,962)	Exhibit D, Schedule B	Recalculated Line 37 + Line 38
40	Net Other (Peak Shaving and Demand Capacity)	<u>\$ (318,440)</u>		Recalculated Line 32 + Line 39

Exhibit D (continued):

Schedule C
Determination of Actual Cost Adjustment (ACA) Factor
Based on the Twelve Months Ended August 31, 2015

Line No.	Description	Amount	Reference	Description of the line item
1	<u>Collections from Firm Customers</u>			
2	Commodity	\$ 58,904,534		Actual collection of Commodity received from customers
3	Peak Shaving	972,078		Actual collection of Peak Shaving received from customers
4	Demand	21,202,152		Actual collection of Demand received from customers
5	Carrying Charges on Prepaid Gas Costs	2,257,690		Actual collection of Carrying Charges received from customers
6	Total	<u>\$ 83,336,454</u>	Exhibit D Schedule A	Amount of actual collection received from the customers

Exhibit E:

ACA Agreed-Upon Procedures Summary

Schedule A

Determination of Actual Cost Adjustment (ACA) Factor

Exhibit D Line Reference			AUP Procedures				
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering	Agreed To	Exception
A	1	Cost of Gas Purchased	77	SBC agreed to the detail calculation.	AUP #1 - A - D	Exhibit D Schedule B	No exception noted.
A	2	Collections from Firm Customers	78	SBC agreed to the detail calculation.	AUP #1 - A - D	Exhibit D Schedule C	No exception noted.
A	4	Under/(Over) Collection of Gas Costs	79	SBC recalculated in the same manner as WGL by subtracting line 2 from line 1.	AUP #1 - A - D	N/A	No exception noted.
A	5	Estimated Firm Therm Sales for the ACA Period	80	SBC compared the budgeted firm sales to actual.	AUP #1 - A - D	Exhibit A Schedule B - 5	No exception noted.
A	6	Actual Cost Adjustment Rate per Therm	81	SBC recalculated by dividing line 4 by 5.	AUP #1 - A - D	Exhibit A Schedule A	No exception noted.

Exhibit E (continued):

Schedule B (Part 1)
Determination of Actual Cost Adjustment (ACA) Factor DC

Exhibit D Line Reference			AUP				
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering	Agreed To	Exception
B	2	Natural Gas Purchase	82	SBC agreed to the accounting record and recalculated the DC amount using the allocation factor from the detailed calculation.	AUP #1 - A - D	Exhibit D - Schedule B-1 -1	No exception noted.
B	4 and 5	Cost of Interruptible Sales and Penalties	83	SBC agreed to the accounting record and recalculated the DC amount using the allocation factor from the detailed calculation.	AUP #1 - A - D	Exhibit D - Schedule B-1 -2	No exception noted.
B	6	Gas Losses Billed to Others	84	SBC agreed to the accounting record and recalculated the DC amount using the allocation factor from the detailed calculation.	AUP #1 - A - D	N/A	No exception noted.
B	7	Net Firm Natural Gas Purchases	85	SBC recalculated in the same manner as WGL by subtracting Line 3, Line 4, Line 5 and Line 6.	AUP #1 - A - D	N/A	No exception noted.
B	8	Peak Shaving	86	SBC agreed to the accounting record and recalculated the DC amount using the allocation factor from the detailed calculation.	AUP #1 - A - D	Exhibit D - Schedule B-1 -2	No exception noted.
B	9	Hexane	87	SBC agreed to the accounting record and recalculated the DC amount using the hexane allocation factor for the year.	AUP #1 - A - D	N/A	No exception noted.
B	13	Base Gas - Firm Transportation	88	SBC agreed the system amount to the accounting record and recalculated the DC amount using the allocation factor and the base gas percentage from the detailed calculation.	AUP #1 - A - D	Exhibit D - Schedule B-1-2	No exception noted.
B	14	Weather Gas - Firm Transportation	89	SBC agreed the system amount to the accounting record and recalculated the DC amount using the allocation factor from the detailed calculation and the base gas percentage.	AUP #1 - A - D	Exhibit D - Schedule B-1-2	No exception noted.

Exhibit E (continued):

Schedule B (Part 2) Determination of Actual Cost Adjustment (ACA) Factor DC

Exhibit D Line Reference			AUP				
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering	Agreed To	Exception
B	15	Storage Demand	90	SBC agreed to the accounting record and recalculated the DC amount using the allocation factor from the detailed calculation.	AUP #1 - A - D	Exhibit D - Schedule B-2	No exception noted.
B	17	Storage Capacity	91	SBC agreed to the accounting record and recalculated the DC amount using the allocation factor from the detailed calculation.	AUP #1 - A - D	Exhibit D - Schedule B-1-2	No exception noted.
B	18	Hampshire Gas Company	92	SBC agreed to the accounting record and recalculated the DC amount using the allocation factor from the detailed calculation.	AUP #1 - A - D	Exhibit D - Schedule B-1-2	No exception noted.
B	19	Peak Shaving	93	SBC agreed to the accounting record and recalculated the DC amount using the allocation factor from the detailed calculation.	AUP #1 - A - D	Exhibit D - Schedule B-1-2	No exception noted.
B	20	Capacity Release	94	SBC agreed to the accounting record and recalculated the DC amount using the allocation factor from the detailed calculation.	AUP #1 - A - D	N/A	No exception noted.
B	21	Credits Re-delivery Service	95	SBC agreed to the accounting record.	AUP #1 - A - D	N/A	No exception noted.
B	24	Carrying Charges on Prepaid Gas	96	SBC agreed the beginning and ending inventory amount , the DC approved cost rate, and adjustments to the accounting record, and recalculated the carrying charges on prepaid gas.	AUP #1 - A - D	N/A	No exception noted.
B	25	Asset Management Revenue Sharing	97	SBC agreed amounts to accounting listing of asset management revenue. - tracing the selected revenue to invoice.	AUP #1 - A - D	N/A	No exception noted.
B	27	Total ACA Cost of Gas	98	SBC recalculated in the same manner as WGL by adding Line 10, Line 21, Line 22, Line 23, Line 25 and Line 26.	AUP #1 - A - D	N/A	No exception noted.

Exhibit E (continued):

Schedule B-1-1 (Part 1) Determination of Average Cost per Dth – Commodity

Exhibit D Line Reference			AUP			Agreed To	Exception
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering		
B-1-1	2	Field Line purchases - Columbia	99	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	F-1
B-1-1	3	Field Line Purchases - Transco	100	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	F-1
B-1-1	4	Field Line Purchases - DTI	101	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	F-1
B-1-1	5	Storage Withdrawals - Columbia Hampshire	102	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	6	Storage Withdrawals - Columbia FSS	103	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	7	Storage Withdrawals - Columbia SIT	104	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	8	Storage Withdrawals - Columbia Hardy	105	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	9	Storage Withdrawals - Transco GSS	106	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.

Exhibit E (continued):

Schedule B-1-1 (Part 2)
Determination of Average Cost per Dth – Commodity

Exhibit D Line Reference			AUP				
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering	Agreed To	Exception
B-1-1	10	Storage Withdrawals - Transco WSS	107	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	11	Storage Withdrawals - Saltville FSS	108	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	12	Storage Withdrawals - DTI GSS	109	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	13	Storage Withdrawals - DTI Allegheny	110	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	14	Storage Withdrawals - DTI MA	111	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	15	Hexane	112	SBC agreed to accounting records. SBC made selections to trace to invoices.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	16	Total Commodity	113	SBC recalculated by adding lines 2 through 19.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	17	DC Total Therm Sales Factors	114	SBC agreed the therm sales to the system.	AUP #1 - A - D	N/A	No exception noted.
B-1-1	18	DC Natural Gas Purchase	115	SBC agreed to accounting records.	AUP #1 - A - D	Exhibit D - Schedule B	No exception noted.

Exhibit E (continued):

Schedule B-1-1 (Part 3) Determination of Average Cost per Dth – Commodity

Exhibit D Line Reference			AUP				
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering	Agreed To	Exception
B-1-2	19	DC therm Sales	116	SBC agreed to the accounting records.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	20	System therm Sales (wet)	117	SBC agreed to the accounting records.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	21	DC allocation factor	118	SBC recalculated as Line 19 divided by Line 20.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	23	Difference on the DC allocation factor	119	SBC calculated the difference between Line 17 and Line 21.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	25	DC Therm sales of Interruptible Sales (therm)	120	SBC agreed the cost to accounting system report.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	26	Cost per Therm Sold	121	SBC recalculated as Line 27 divided by Line 25.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	27	Cost of Interruptible Sales	122	SBC agreed to the accounting records.	AUP #1 - A - D	Exhibit D - Schedule B	No exception noted.
B-1-2	28	Total Commodity Cost for system	123	SBC agreed to Schedule B-2, Line 16	AUP #1 - A - D	N/A	No exception noted.

Exhibit E (continued):

Schedule B-1-1 (Part 4)
Determination of Average Cost per Dth – Commodity

Exhibit D Line Reference			AUP				
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering	Agreed To	Exception
B-1-2	29	Total Dry therm Sold	124	SBC agreed the dry therm sold to accounting record. SBC selected invoices to agree to therm sold.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	31	Conversion to Wet Therm	125	SBC agreed the conversion factor to the public source.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	33	Cost per Wet Therm	126	SBC recalculated based on the dry therm sold and the conversion factor to wet therm	AUP #1 - A - D	N/A	No exception noted.
B-1-2	34	Unaccounted for Adjustments	127	SBC agreed to the support of the unaccounted for factor of % for each year.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	35	Cost per Therm	128	SBC recalculated based on cost per wet therm plus unaccounted for adjustments	AUP #1 - A - D	N/A	No exception noted.
B-1-2	37	Difference on the cost per therm	129	SBC calculated the difference between Line 35 and Line 36.	AUP #1 - A - D	N/A	No exception noted.

Exhibit E (continued):

Schedule B-1-1 (Part 5)
Determination of Average Cost per Dth – Commodity

Exhibit D Line Reference			AUP				
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering	Agreed To	Exception
B-1-2	39	Peak Shaving Cost	130	SBC agreed the cost to accounting system report. SBC selected purchases and traced to invoice	AUP #1 - A - D	N/A	No exception noted.
B-1-2	41	Total Peak Shaving Cost	130	SBC recalculated the amount as the factor of Line 39 and Firm Weather Gas Factor.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	42	DC Firm Weather Gas	130	SBC agreed the gas to the accounting record.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	43	System Firm Weather Gas	130	SBC agreed the gas to the accounting record.	AUP #1 - A - D	N/A	No exception noted.
B-1-2	44	DC Allocated Firm Weather Gas	130	SBC recalculated as Line 42 divided by Line 43.	AUP #1 - A - D	N/A	No exception noted.

Exhibit E (continued):

Schedule B-2 (Part 1) Detailed Calculation of DC Allocation Factors

Exhibit D Line Reference			AUP				
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering	Agreed To	Exception
B-2	2	Columbia Fts Reservation	131	SBC agreed the cost to accounting system report. SBC selected purchases and traced to invoice.	AUP #1 - A - D	N/A	No exception noted.
B-2	3	Columbia Gulf FTS	132	SBC agreed the cost to accounting system report. SBC selected purchases and traced to invoice.	AUP #1 - A - D	N/A	No exception noted.
B-2	4	Transco FTS Reservation Charge	133	SBC agreed the cost to accounting system report. SBC selected purchases and traced to invoice.	AUP #1 - A - D	N/A	No exception noted.
B-2	5	DTI FTNN Reservation Charge	134	SBC agreed the cost to accounting system report. SBC selected purchases and traced to invoice.	AUP #1 - A - D	N/A	No exception noted.
B-2	6	DTI East TN FT	135	SBC agreed the cost to accounting system report. SBC selected purchases and traced to invoice.	AUP #1 - A - D	N/A	No exception noted.
B-2	7	Qualified CSP Capacity	136	SBC agreed the cost to accounting system report. SBC selected purchases and traced to invoice.	AUP #1 - A - D	N/A	No exception noted.
B-2	9	Base gas percentage	137	SBC agreed to accounting system report.	AUP #1 - A - D	N/A	No exception noted.
B-2	10	Allocation to base Gas	138	SBC recalculated the amount as the factor of Line 7 and Line 9.	AUP #1 - A - D	N/A	No exception noted.
B-2	11	DC Peak Day Base Gas Allocation	139	SBC agreed to accounting record	AUP #1 - A - D	N/A	No exception noted.

Exhibit E (continued):

Schedule B-2 (Part 2)
Detailed Calculation of DC allocation factors

Exhibit D Line Reference			AUP				
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering	Agreed To	Exception
B-2	12	Total Peak Day Base Gas	140	SBC recalculated as the factor of Line 10 and Line 11.	AUP #1 - A - D	Exhibit D, Schedule B	No exception noted.
B-2	14	System Amount of Weather Gas	141	SBC recalculated as the difference between Line 7 and Line 10.	AUP #1 - A - D	N/A	No exception noted.
B-2	15	DC Peak Day Base Gas Allocation	142	SBC agreed to accounting records.	AUP #1 - A - D	N/A	No exception noted.
B-2	16	Total Peak Day Base Gas	143	SBC recalculated as the factor of Line 14 and Line 15.	AUP #1 - A - D	Exhibit D, Schedule B	No exception noted.
B-2	18	Actual Storage Demand Cost	144	SBC agreed to accounting record. SBC selected expenses from accounting record and traced to the invoice	AUP #1 - A - D	N/A	No exception noted.
B-2	19	DC Allocation Peak Day Weather Gas Factor	145	SBC agreed to accounting record.	AUP #1 - A - D	N/A	No exception noted.
B-2	20	DC allocated cost of storage demand	146	SBC recalculated as the factor of Line 18 and Line 19.	AUP #1 - A - D	Exhibit D, Schedule B	No exception noted.
B-2	22	Actual Cost of Storage Capacity Cost	147	SBC agreed to accounting record. SBC selected expenses from accounting record and traced to the invoice	AUP #1 - A - D	N/A	No exception noted.
B-2	23	DC Allocation Peak Day Weather Gas Factor	148	SBC agreed to accounting record.	AUP #1 - A - D	N/A	No exception noted.
B-2	24	DC allocated cost of storage capacity	149	SBC recalculated as the factor of Line 22 and Line 23	AUP #1 - A - D	Exhibit D, Schedule B	No exception noted.
B-2	26	Actual Cost of Hampshire Gas Company	150	SBC agreed to accounting record. SBC selected expenses from accounting record and traced to the invoice	AUP #1 - A - D	N/A	No exception noted.

Exhibit E (continued):

Schedule B-2 (Part 3) Detailed Calculation of DC Allocation Factors

Exhibit D Line Reference			AUP				
Schedule	Line	Description	Procedure No.	Decription of AUP Procedures	AUP Covering	Agreed To	Exception
B-2	27	DC Allocation Weather Gas Factor	151	SBC agreed to accounting record.	AUP #1 - A - D	N/A	No exception noted.
B-2	28	DC allocated cost of storage capacity	152	SBC recalculated as the factor of Line 26 and Line 27.	AUP #1 - A - D	Exhibit D, Schedule B	No exception noted.
B-2	30	Actual Cost of Peak Shaving Demand	153	SBC agreed to accounting record. SBC selected expenses from accounting record and traced to the invoice	AUP #1 - A - D	N/A	No exception noted.
B-2	31	DC Allocation Firm Weather Gas Factor	154	SBC agreed to accounting record.	AUP #1 - A - D	N/A	No exception noted.
B-2	32	DC allocated cost of storage capacity	155	SBC recalculated as the factor of Line 30 and Line 31.	AUP #1 - A - D	Exhibit D, Schedule B	No exception noted.
B-2	35	Actual Cost of Demand Capacity Release - storage demand	156	SBC agreed to accounting record. SBC selected expenses from accounting record and traced to the invoice	AUP #1 - A - D	N/A	No exception noted.
B-2	36	DC Allocation Peak Day Weather Gas Factor	157	SBC agreed to accounting record.	AUP #1 - A - D	N/A	No exception noted.
B-2	37	DC allocated cost of storage capacity	158	SBC recalculated as the factor of Line 35 and Line 36.	AUP #1 - A - D	N/A	No exception noted.
B-2	38	Actual Cost of Demand Capacity Release - transportation	159	SBC agreed to accounting record. SBC selected expenses from accounting record and traced to the invoice	AUP #1 - A - D	N/A	No exception noted.
B-2	39	DC allocated credit of demand capacity release	160	SBC recalculated as the sum of Line 37 and Line 38.	AUP #1 - A - D	Exhibit D, Schedule B	No exception noted.
B-2	40	Net Other (Peak Shaving and Demand Capacity)	161	SBC recalculated as the sum of Line 32 and Line 39.	AUP #1 - A - D	N/A	No exception noted.

Exhibit E (continued):

Schedule C (Part 1) Determination of Actual Cost Adjustment (ACA) Factor

Exhibit D Line Reference			AUP				
Schedule	Line	Description	Procedure No.	Description of AUP Procedures	AUP Covering	Agreed To	Exception
C	2	Commodity	162	SBC agreed to accounting and system record. SBC read the customer bills and agreed the amount on the bill to accounting record.	AUP #1 - A - D	N/A	No exception noted.
C	3	Peak Shaving	163	SBC agreed to accounting and system record. SBC read the customer bills and agreed the amount on the bill to accounting record.	AUP #1 - A - D	N/A	No exception noted.
C	4	Demand	164	SBC agreed to accounting and system record. SBC read the customer bills and agreed the amount on the bill to accounting record.	AUP #1 - A - D	N/A	No exception noted.
C	5	Carrying Charges on Prepaid Gas Costs	165	SBC agreed to accounting and system record. SBC read the customer bills and agreed the amount on the bill to accounting record.	AUP #1 - A - D	N/A	No exception noted.
C	6	Total	166	SBC agreed to accounting and system record. SBC read the customer bills and agreed the amount on the bill to accounting record.	AUP #1 - A - D	Exhibit D - Schedule A	No exception noted.

Exhibit F:

Schedule of Exceptions and Management's Response

Schedule A

Schedule of Exceptions and Management's Response

Number	Related Test	Description of Exception	Management's Response	Impact of Exception
F - 1	Invoice Testing	SBC noted that 1 of 77 counterparty invoices was not located by Management. Exception noted.	A hard copy of the invoice was not found due to water damage at remote storage location.	Since SBC was not able to verify the accuracy of the costs associated with natural gas purchases, SBC cannot verify the correct application of the invoice to the Purchased Gas Charge billed to the customers.
F - 2	ACA Testing	SBC noted that Management aims to keep the over/under collection of gas costs reported in the ACA filing within 2%. The analysis provided by Management showed that the System Wide over/under collection fluctuated between -3.5% to 2.61% between 2012 to 2016. The DC segment portion fluctuated between -6.15% and 7.53%. SBC recommends that WGL Management evaluate the different segments separately in determining the acceptable deviation.	The cost data used in the monthly analysis is not available on a jurisdictional basis at the time the forecast is made, in advance of setting the monthly/quarterly PGC rates; therefore, WGL cannot evaluate the segments separately when estimating costs. Since collections are based on estimated costs billed to customers, over/under collection is expected and is not predictable. WGL aims to keep the over/under collection within 2%; however, actuals can vary based on weather patterns.	This has no impact for the rate calculation.

Section III

Asset Optimization Revenue Procedures

Exhibit G:

Agreed-Upon Procedures

As part of the AUP Procedure III - items A to F, SBC performed procedures to test WGL's asset optimization cost and revenue sharing. A third party, Vega, is used to identify asset optimization opportunities. Once areas for opportunities are identified, WGL will sell or purchase gas as part of the optimization program. The amounts are recorded based on the invoices received by the counterparties. Asset Optimization is recorded in the system for Maryland, Virginia and the District of Columbia. SBC reviewed the net revenue per year in GasPro and then sub-selected ten months for invoice testing. WGL excludes summer fuel from the calculation of the gross profit and removes prior amortization of summer fuel from the profit. SBC calculated the profit after Vega fees as well as re-allocated a portion to DC based on the annual allocation percentage. The revenue sharing is split 50%.

Both the PGC and ACA filings contain line items related to Asset Optimization Revenue. Schedule A details the portion of the PGC charge related to Asset Optimization Revenue based on a three year average revenue calculation.

Schedule A

2016 Asset Optimization Revenue for PGC Calculation

Line No.	Description	PGC Amount per Therm	Reference	Description of the line item
1	Asset Optimization Revenue Sharing (Estimated)	\$ 0.0330	Exhibit A Schedule B - 5 Line 13	Per therm share of the asset optimization revenue sharing for DC based on 3 years average revenue

Exhibit G (continued):

Using the actual optimization revenue from the prior three years, WGL calculated an average revenue. The estimated asset optimization revenue is calculated by taking the average revenue and dividing it by the projected annual firm therm sales, which are budgeted for the future twelve months as part of the ACA filing process.

Schedule B **2016 Asset Optimization Revenue Calculation**

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Exhibit G (continued):

SBC performed the following procedures on the Asset Optimization Revenue Sharing that is recorded on the PGC filings.

Schedule C Asset Optimization Revenue – PGC Procedures

Exhibit Line Reference				AUP Procedures Performed				
Exhibit	Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
A	B-5	1 to 3	Asset Optimization Revenue Sharing	167	SBC tested actual revenue from counterparty invoices and tied to the Asset Optimization ledgers.	AUP Procedure III - F	N/A	No exception noted.
A	B-5	1	Asset Optimization Revenue Sharing	168	SBC reconciled the revenue allocated to DC that is recorded in GasPro to the revenue recorded in the ACA filings (net of Vega Fees, Asset Optimization Sharing Percentage)	AUP Procedure III - D	N/A	No exception noted.
G	B	6	Projected Annual Firm Therm Sales	169	SBC agreed to the ACA filing	AUP Procedure III - F	N/A	No exception noted.

Exhibit G (continued):

The ACA filings contain the Asset Optimization Revenue Sharing that is allocated to DC. The amount shown in Schedule D is net of summer fuel amortization and Vega fees.

Schedule D
2015 Asset Optimization Revenue

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Exhibit G (continued):

SBC performed the following procedures on the Asset Optimization Revenue Sharing that is recorded on the ACA filings.

Schedule E Asset Optimization Revenue – ACA Procedures Undefined

Exhibit G Line Reference			AUP Procedures Performed				
Schedule	Line #	Description	Procedure No.	Description of AUP Procedure	AUP Covering	Agreed To	Exception
D	1	Asset Management Revenue Sharing	170	SBC agreed to the accounting listing of asset management revenue.	AUP Procedure III - D	N/A	No exception noted.
D	1	Asset Management Revenue Sharing	171	SBC agreed the selected revenue to invoice and contract.	AUP Procedure III - D	N/A	No exception noted.

Exhibit H:

Schedule of Exceptions and Management's Response

Schedule A (Part 3)

Schedule of Exceptions and Management's Response

Number	Related Test	Description of Exception	Management's Response	Impact of Exception
N/A	No Exceptions Noted	No Exceptions Noted	No Exceptions Noted	No Exceptions Noted

SUPPLEMENTAL SCHEDULES

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Purchase Gas Cost Quarterly Filings (PCG Filing) (Quarters selected for testing)

- Exhibit I: PGC Filing, 2016 Quarter 2
- Exhibit II: PGC Filing, 2015 Quarter 4
- Exhibit III: PGC Filing, 2014 Quarter 1
- Exhibit IV: PGC Filing, 2013 Quarter 2
- Exhibit V: PGC Filing, 2012 Quarter 3

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Actual Cost Adjustment Annual Filings (ACA Filing) (Filing in scope of period tested)

- Exhibit VI: ACA Filing, for year ended August 31, 2016
- Exhibit VII: ACA Filing, for year ended August 31, 2015
- Exhibit VIII: ACA Filing, for year ended August 31, 2014
- Exhibit IX: ACA Filing, for year ended August 31, 2013
- Exhibit X: ACA Filing, for year ended August 31, 2012

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