BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	)	
vs.	)	Docket No. R-2015-2468056
Columbia Gas of Pennsylvania, Inc.	)	

DIRECT TESTIMONY OF
BRIAN E. ELLIOTT
ON BEHALF OF
COLUMBIA GAS OF PENNSYLVANIA, INC.

March 19, 2015

Q. Please state your name and business address.

A. Brian E. Elliott, 290 W. Nationwide Boulevard, Columbus, Ohio 43215.

Q. By whom are you employed and in what capacity?

A. I am employed by NiSource Corporate Services Company ("NCSC"). My title is Manager for Regulatory Strategy & Support.

Q. What is your educational background?

A. I graduated from West Virginia State College in 1985 with a Bachelor of Science degree in Business Administration and I majored in Accounting. I am a Certified Public Accountant and a member of the American Institute of Certified Public Accountants.

Q. Please briefly describe your professional experience.

A. In March 1991, I joined Columbia Natural Resources ("CNR"). From 1991 until 2001, I held several positions of increasing responsibility in the Finance Department of CNR. In 1997, I was promoted to Financial Planning Manager. In 2001, I changed roles to become the Accounting Manager of CNR. From mid-2002 through 2003, I assumed a role with NCSC as the Financial Planning Manager of a group of regulated utilities, including Columbia Gas of Ohio, Columbia Gas of Kentucky, and Bay State Gas Company (now dba Columbia Gas of Massachusetts). From 2004 through mid-2012, I was the Accounting Manager of Columbia Gas of Ohio. Most recently, in mid-2012, I accepted my current position as a manager in NCSC's Regulatory Strategy & Support Department,

providing support to companies in NiSource Inc.'s gas distribution segment, including Columbia Gas of Pennsylvania, Inc. ("Columbia" or the "Company").

Q. Have you previously testified before the Pennsylvania Public Utility Commission or any other regulatory commission?

A. Yes, I presented testimony in Columbia's last rate case at Docket No. R-2014-24062714. Additionally, I have testified before the Public Service Commission of Maryland, the Massachusetts Department of Public Utilities, and the Virginia State Corporation Commission.

Q. What is the purpose of your testimony in this proceeding?

A. I am sponsoring Columbia's Allocated Cost of Service ("ACOS") studies in this matter. As required by Section 53.53 III, Items 1 and 9 of the Commission's regulations, I prepared ACOS studies by rate class at present and proposed rates (Item 1) and a cost analysis supporting minimum charges for all rate schedules (Item 9). The studies and cost analysis are presented in Exhibit 111. Item 10 of Section 53.53 III requires a cost analysis supporting demand charges. However, I did not prepare this analysis because Columbia's present and proposed tariffs do not contain distribution demand charges.

Q. Please describe Exhibit No. 11.

A. Exhibit No. 11 addresses the Commission's filing requirements regarding ACOS studies and rate design as required by Section 53.53 III. The Company's ACOS studies are presented in Exhibit No. 111 and a detailed description of the

methodologies are included in this testimony. The ACOS studies are based on the fully forecasted rate year ending December 31, 2016.

Q. Are you responsible for the ACOS studies presented in Exhibit No. 111?

A. Yes, I am.

Q. Three ACOS studies are included in Exhibit No. 111. Is that correct?

A. Yes.

Q. Why did you conduct three ACOS studies?

A. Columbia has filed two studies in its base rate proceedings since the early nineteen-eighties that provide the outside limits of the possible allocations of mains to the various classes of service. The customer-demand study (Exhibit No. 111, Schedule 1) produces results that are generally more favorable to the industrial class while the peak & average study (Exhibit No. 111, Schedule 2) produces results that are generally more favorable to the residential class. Columbia recognizes that no one cost of service study is the "right" study and in the past believed the results of two such studies provided a reasonable range of returns for use as a guide in establishing appropriate rates.

Q. What is the basis of the third study and why did Columbia file it?

A. The third study as presented in Exhibit No. 111, Schedule 3 is an average of the customer-demand study and the peak and average study. Columbia continues to believe that the customer-demand study and the peak and average study provide a reasonable range, and the average study with its equal weighting of the two provides the Company, the parties and the Commission with a set of returns that

can be used as a benchmark or guide in revenue allocation. It is another tool that is used in setting rates based on the cost to serve.

Q. Could you provide a list of the schedules, and attachments you are sponsoring through your testimony?

A. Yes. The table below lists all the schedules, and attachments that I am sponsoring.

Schedule/Attachment	Description
Exh. No. 111, Schedule No. 1	Customer-Demand Study
Exh. No. 111, Schedule No. 2	Peak & Average Study
Exh. No. 111, Schedule No. 3	Average Study
Exh, No. 111, Schedule No. 4	List of Allocation Factors
Statement No. 7, Exhibit BEE-1	Development of Allocation Factors
Statement No. 7, Exhibit BEE-2	Development of Allocation Factors Factor Nos. 5, 20 and 22
Statement No. 7, Exhibit BEE-3	Factor Selection and Rationale
Statement No. 7, Exhibit BEE-4	Intra-Class Adjustment of Storage Carrying Costs

Q. Could you briefly describe the format of the ACOS studies that you are sponsoring?

A. The format is substantially similar for the three studies except for the customer-demand study, Schedule No. 1. It contains 18 pages while the Peak and Average study in Schedule 2 and the Average study in Schedule 3 contain 13 pages. The Customer-Demand study contains the system charge studies, which I will be discussing later in my testimony, on pages 14 through 18 of Exhibit 111, Schedule No. 1. The rates of return that are shown on page 1 of each study are based on

income that is generated using proposed rates, with page 2 showing the rates of return that are generated using current rates. Both page 1 and page 2 summarize the same allocated cost of service with the exception of income taxes and uncollectibles, which vary with the changes in revenue as a result of the change in current rates to proposed rates. The allocation of gross plant investment is shown on page 3 while page 4 contains the reserve for depreciation and page 5 contains depreciation and amortization expenses. Revenue by account and rate schedule is summarized on page 6 for both current and proposed rates and pages 7 and 8 contain the allocation for operation and maintenance expenses, while page 9 contains the allocation of taxes other than income. Rate base is detailed by rate schedule on page 10, with page 11 calculating Federal and Corporate Net Income taxes. The allocation factors are listed on pages 12 and 13. As noted above, a summary of the rates of return by rate schedule is provided in Exhibit BEE-1.

Q. How were the rate schedules grouped in allocating the cost of service?

A. For residential and small general service, sales and delivery services were combined, respectively; Residential Sales Service ("RSS") and Residential Distribution Service ("RDS") were combined and presented in Column D of each study, and Small General Sales Service ("SGSS"), Small Commercial Distribution ("SCD") and Small General Distribution Service ("SGDS") were combined and presented in Column E of each study. Because essentially any customer can qualify and, therefore, switch between sales and distribution services under these schedules, it is reasonable to conclude that customer characteristics are the same

for both types of services, i.e., size, consumption patterns, heat sensitive, human need requirement, etc. With no long term difference in the customers' profiles, the distribution cost to provide such service is equivalent. For the larger customers, the studies present the cost of service for each rate schedule: Small Distribution Service and the lower band of Large General Sales Service ("SDS/LGSS") is presented in Column G, and Large Distribution Service and the upper band of Large General Sales Service ("LDS/LGSS") is presented in Column H. Main Line Sales Service ("MLS") and Main Line Distribution Service ("MLDS") are combined and presented in Column I due to their unique characteristic of proximity to an interstate pipeline. Column F, which previously included the Large General Sales Service ("LGSS"), is now marked "N/A" in this study as the LGSS customers who were previously included here have been split between and combined with either the existing SDS or LDS classes of customers, as shown in Columns G and H, respectively.[1]

Q. What method did Columbia use in previous cases to identify and separate Account 376 – Mains before allocation to the rate classes in each study?

A. Before its 2012 rate case (Docket No. R-2012-2321748), Columbia did not identify and separate mains before applying allocation factors. In its 2012 rate case, Columbia identified and separated mains (excluding mains directly assigned to the MLS/MLDS class) by separating that portion of mains that can

[1] The merging of LGS base rate charges with the base rate charges of the SDS and LDS rate classes is addressed in Company Witness Balmert's testimony, Statement 11, Section III.

only serve residential and SGS/SGDS customers ("small customer mains") and that portion of mains that can be used to serve all customers. By separating the low pressure and two inch mains and allocating those mains to only the residential and SGS/SGDS class, Columbia recognized that the remaining rate classes were not physically served from those systems, did not benefit from those systems, and therefore should not share in the recovery of those systems' costs. The remaining intermediate pressure ("IP"), medium pressure ("MP") and high pressure ("HP") systems greater than two inches may or may not be required to serve those customers who are served directly from a low pressure system. Without a detailed analysis of each of Columbia's IP, MP, and HP systems the Company did not know which customers were served from those systems and, therefore, Columbia allocated the IP, MP, and HP systems, as it had in previous rate cases, to all rate classes except the MLS/MLDS class. In its 2014 rate case (Docket No. R-2014-2406274), Columbia performed a detailed analysis of each of its IP, MP, and HP systems, in order to allocate the cost of those systems to the customers who used them.

Q. Have you again performed a detailed analysis of each of Columbia's IP, MP, and HP systems in this case?

A. No. A significant investment in time was made in the 2014 rate case to develop the engineering studies and analysis of the IP, MP, and HP systems. Because Columbia believes that the impact of one year of capital activity would likely not have a significant impact on the results of a new study, Columbia is relying on the

modified results of its analysis of the IP, MP, and HP systems that were used in the 2014 case. In that prior case, a detailed analysis of each of the Company's IP, MP, and HP systems was performed, resulting in a refined mains allocation method. In its current case, Columbia, after identifying and directly assigning the actual inventory of mains for the MLS/MLDS rate class, is again assigning its remaining mains to one of four allocation categories: 'transmission', 'low pressure', 'regulated non-low pressure', and 'remaining regulated pressure.' Each of these groupings of mains is then being separately allocated using Columbia's traditional allocation methods.

Q. Did Columbia make any changes to the 2014 mains study for the purpose of its current rate case?

A. Yes. Short of preparing a completely new engineering study, Columbia updated as many factors as possible in the 2014 study. As described elsewhere in my testimony, we are preparing multiple Allocated Cost of Service Studies. Two of those are the Customer/Demand Study and the Peak and Average Study. In the Customer/Demand Study, the primary drivers of the allocation of the cost of mains are customer counts and design day demand. For each of those drivers, Columbia updated the study to reflect the 2015 rate case data. Similarly, in the Peak and Average Study, the primary drivers of the allocation of the cost of mains are average throughput and design day demand. As with the Customer/Demand Study, Columbia updated these two drivers to reflect the 2015 rate case data.

Additionally, because Columbia was replacing steel pipe with plastic pipe throughout the year, we recognized that the total quantities of kind and size of pipe had changed. To recognize this fact and include this impact in the mains study, Columbia compared the quantities, from its 2014 rate case mains study, of each size/kind combination of plastic and steel pipe, to the quantities of each size/kind combination of plastic and steel pipe identified in its current case. Wherever this comparison produced a change between the two years, an allocation of the change was calculated and the resulting difference was then applied to both the Low Pressure and Regulated Non-Low Pressure studies, on a pro-rata basis. These changes are reflected in the quantities shown in Exhibit 11, Schedule BEE-2, Pages 7 – 8 and again on Pages 18 – 19.

Q. Were the results of this modified study consistent with the results seen in the 2014 rate case?

A. Yes. As shown in the table below, the allocation factors developed in the 2014 rate case mains study (Docket No. R-2014-2406274, Exhibit 111, Schedule BEE-3, Page 19, Line 22, and Page 33, Line 18) are very similar to those developed in the Company's current case using the modified results of the 2014 mains study.

Year/Study	RSS/RDS	SGSS/SCD/SGDS	LGS	SDS/LGSS	LDS/LGSS	Total
2014 C/D	75.190%	16.663%	0.481%	3.354%	4.312%	100.000%
2015 C/D	75.694%	16.318%	0.000%	4.113%	3.875%	100.000%
2014 P&A	54.990%	22.349%	1.126%	6.993%	14.542%	100.000%
2015 P&A	56.714%	22.120%	0.000%	7.792%	13.374%	100.000%

Q. How has Columbia identified and separated Account 376 – Mains in its current rate case?

A. Columbia is relying on the results of its mains study developed in the 2014 rate case. In that case, Columbia was able to identify and separate, based on operating pressures, its transmission, low pressure, and regulated non-low pressure mains. The physical system data was then analyzed alongside the company's plant accounting system records and its customer billing system ("DIS") records, resulting in a refined and more precise study. Those specific categories of mains were identified and gathered in response to suggestions received in its 2012 rate case. A fourth category, remaining regulated pressure mains, was arrived at by subtracting, from the Company totals (excluding direct

assignment MLS/MLDS), the quantities separately identified as 'transmission', 'low pressure', or 'regulated non-low pressure.' The remaining difference was, by default, 'remaining regulated pressure mains.' This fourth category represents mains that may serve any or all pressure-types of customers, but cannot be identified as serving any one specific type.

Q. Did Columbia change its allocation method for Account 376 – Mains in its current case?

A. No. As in its 2014 case, Columbia's allocation method in its current case follows the same approach. That is, a Peak & Average, Customer/Demand, and Average Study was prepared, incorporating the same allocation factor drivers (i.e. design day volumes, customer counts, throughput) as were used in its prior case. Again, because Columbia is using the mains allocation model from its 2014 case, which contains the more precise data that was provided by the company's systems and engineers, for the transmission, low pressure, and regulated non-low pressure categories, the allocation of costs continues to be assigned to the specific types of customers who utilize those mains. The specific allocation methods used for each of these categories are later explained.

Q. What allocation approach is being applied to 'transmission' mains?

A. Transmission mains are generally not designed to serve individual or small groups of customers, and are typically viewed as being designed to meet the peak demand of an entire geographical area. For this reason, transmission mains are being allocated using the Company's total design day volumes (excluding

MLS/MLDS), in both the Customer-Demand (Exhibit 111, Schedule No. 1) and the Peak & Average (Exhibit 111, Schedule No. 2) studies.

Q. What allocation approach is being applied to 'low pressure' mains?

A. In the Customer-Demand Study, low pressure mains were split into customer and demand components, based on the average cost per foot of a two-inch main. The customer component was calculated by dividing the hypothetical cost of the Company's two-inch low pressure system into the total cost of the Company's low pressure system. This customer component of the low pressure mains was then allocated to rate classes based on the total number of customers (by rate class) served from Columbia's low pressure mains (excluding MLS/MLDS). The demand component was arrived at by calculating the cost of mains, other than the hypothetical cost of the Company's two-inch low pressure systems, and dividing that total into the total cost of the low pressure systems. The demand portion was allocated to rate classes based on the design day volumes for customers served from Columbia's low pressure mains.

In the Peak & Average Study, low pressure mains were allocated, using a 50-50 split, using historical test-year throughput volumes (applicable only to the low pressure customers), and design day volumes applicable only to the low pressure customers (excluding MLS/MLDS).

Q. What are "regulated non-low pressure" mains?

A. Regulated non-low pressure mains are IP, MP and HP systems that do not serve low pressure systems. Customers served from regulated non-low pressure mains

do not receive any gas directly or indirectly from a low pressure system. Conversely, customers served from low pressure system mains do not receive any gas directly or indirectly from a regulated non-low pressure system.

Q. What allocation approach is being applied to the regulated non-low pressure mains?

A. In the Customer-Demand Study and as with the low pressure mains, the regulated non-low pressure mains were split into customer and demand components then allocated to the rate classes, using the same methodology. That is, only the customer counts and design day volumes for the Columbia's regulated non-low pressure customers were used in the allocation process.

Similarly, in the Peak & Average Study, the regulated non-low pressure mains were allocated, using a 50-50 split, using average throughput volumes (based on historical test-year throughput volumes) and design day volumes (both applicable only to the regulated non-low pressure customers and excluding MLS/MLDS).

Q. What are "remaining regulated pressure" mains?

A. Remaining regulated mains are IP, MP and HP systems that serve two purposes: 1) to deliver gas to customers that require IP, MP or HP pressure; and 2) to also deliver gas into downstream low pressure systems and regulated non-low pressure systems. Because these upstream distribution mains are required to serve customers directly tied to both downstream low pressure and regulated non-low pressure systems, Columbia allocates the costs of remaining regulated

pressure mains to all customers (except MLS/MLDS customers, which are directly assigned).

Q. What allocation approach is being applied to the remaining regulated pressure mains?

A. For the Customer-Demand Study, as with the low pressure and the regulated non-low pressure mains, the remaining regulated pressure mains were split into customer and demand components, using the same methodology as previously discussed. However, for these mains, total company (excluding MLS/MLDS) customer counts and design day volumes were used to allocate the mains cost to the rate classes.

For the Peak & Average Study, the same 50-50 split was used to allocate the total mains cost between historical test year throughput and design day volumes. However, for this allocation, total company volumes (throughput and design day) were used. Again, for this allocation, the MLS/MLDS class volumes were excluded from the allocation factor because this class is directly assigned.

Q. How was the demand component for each class determined?

A. The demand component by class was provided by NCSC's Commercial Operations department and represents expected requirements under design day conditions. I note that the calculations reflect design day total requirement, and thus assumes suppliers will make deliveries that are necessary to meet customer requirements.

Q. Why was the MLS/MLDS customer groups excluded from the above described allocations of mains?

A. Customers served under rate schedules MLS/MLDS were excluded from the allocations of mains under all studies because these customers are served directly from a Columbia Gas Transmission, LLC ("Columbia Transmission") interstate pipeline or are in close proximity to a Columbia Transmission interstate pipeline. Accordingly, Columbia has little or no main investment associated with providing service to these customers. An inventory of the mains investment in serving these customers was made by studying the Company's plant records and maps on a customer by customer basis. The mains investment cost then was directly assigned to MLS/MLDS. Therefore, it is appropriate to exclude them from the allocation of mains and mains related cost.

Q. Since a significant portion of the Company's investment and expense is related to mains and services, does the allocation of those items dominate the outcome of the studies?

A. Yes, it does. Mains and services account for approximately 88% of the Company's gross plant investment and approximately 18% of operating and maintenance expenses, excluding gas costs. The allocation of these items significantly influences the outcome of the studies. In addition, many other elements of operation and maintenance expenses are allocated on plant-related factors.

Q. How are purchased gas costs allocated in the studies?

A. Gas costs are directly assigned to each class at the pro forma levels determined by Company witness Lai (Columbia Statement No. 3) in her Exhibit No. 103, Schedule No.1, Pages 13 through 18.

Q. Were there any other major operations and maintenance expense items that you directly assigned?

A. Yes. As shown on Page 8, Lines 7 and 13 of all three studies, I assigned recovery of costs from the Company's Universal Services Program to the residential class. Under both current and proposed rates, these costs are recoverable from the residential class whether sales or delivery service. Line 7 relates to the uncollectible component and Line 13 relates to the customer compliance and other service costs associated with residential customers. This cost category includes the costs associated with customer service activity for residential customers, including the costs associated with the Company's LIURP and Emergency Service programs.

Q. How did you handle Uncollectibles related to unbundling?

A. The total cost was matched to the amount in revenue, and the portion related to small customers was allocated based on DIS revenue and the large customer portion on Gas Measurement Billing/Gas Transportation System revenue. A more detailed description of the allocation is included in Exhibit BEE-2, attached to my testimony.

Q Please describe how you allocated plant Account 380 - Services and the related O&M accounts.

A. First, I identified the services related to MLS/MLDS and directly assigned them. The remaining investment in Account 380 - Services and the related O&M accounts was based on an actual assignment of services installed on customers' premises.

Individual customer services were identified by size from the company's DIS and accumulated by customer class and rate schedule. Based on the historic test year per book data, services were grouped between under three inches and three inches and over. Average unit prices were developed from the data and applied to the number of services under each rate schedule based on size. The resulting values, by rate schedule, were converted to percentages and used to allocate service investment and related expenses.

Q. Please describe how you allocated plant Account 381 – Meters and Account 382 – Meter Installations in the studies.

A. I have assigned meters to the various classes of customers based on an actual inventory of meters installed on customers' premises. Columbia recognizes four separate pressure groups for meters. Each varies in cost as the size increases. Individual installed meters as identified on DIS were summarized by the four pressure groups. The capitalized property investment as identified on the company's books and records for the four pressure groups was divided by the number of installed meters as reflected on the company's books and records to develop a cost per meter for each group of meters. The costs per meter were multiplied by the identified installed meters in DIS to determine the investment for each customer class. The percentages were developed for Account 381 and used for assigning Account 381 Meters as well as the investment in Account 382 Meter Installations.

Q. Please describe how you allocated plant accounts 383 – House Regulators and 384 – House Regulator Installations.

A. Both of these accounts contain costs that are directly associated with the cost of house regulators. These regulators are installed where the distribution lines are transporting gas at intermediate, medium, or high pressure. Recognizing this fact and understanding, therefore, that customers being served by low pressure lines do not require house regulators, I developed an allocation factor that excludes customers served from low pressure lines from the total. The allocation factor uses total number of customers, grouped by rate class, as assigned in DIS. The resulting allocation percentages are then applied to the total capitalized property investment, as identified on the Company's books and records to determine the cost of house regulators for each rate class.

Q. Please describe how you allocated plant Account 385 – M & R Equipment in the studies.

A. Using data retrieved from DIS, I obtained, for each active customer who had an M & R Station assigned to them, each station's rate schedule and identification number. I then cross-referenced these station identification numbers to the Company's plant accounting records to identify the cost of each station. I then grouped these costs into the corresponding rate classes (excluding MLS/MLDS) and used the resulting totals as the basis for allocating all M & R plant.

Q. Do you provide a more complete description of how these factors were developed and the related calculations?

A. Yes. In Exhibits BEE-1 and 2 attached to this testimony, entitled "Development of Allocation Factors" and "Factors 5, 20 and 22," respectively, I have provided a description and, where needed, a calculation for these and all other factors used for the studies. In addition, in Exhibit BEE - 3, I have provided the rationale for factor selection, by account, as it pertains to the various categories of rate base and expense.

Q. Did you prepare a study in support of the Company's minimum or system charges?

A. I prepared two studies in support of the Company's minimum or system charges. They are contained in Exhibit No. 111, Schedule 1, pages 14 through 18.

Q. Please describe the two studies.

A. The study included in Exhibit 111, Schedule No. 1, pages 14 through 16 contains the company's traditional system charge study based on the customer-demand ACOS study and includes the customer portion of mains costs. Columbia has used this method in support of its system charges in its previous general rate case filings. The study shows an overall customer charge component of almost $39.92 (see Schedule 1, Page 14, Column D, Line 40).

The study presented on pages 17 and 18 of Schedule No. 1 is similar, but excludes the customer component of mains and other operations. The study shows an overall customer charge component of almost $18.86 (see Page 17, Column D, Line 37).

Q. Why did you present this study?

A. To my understanding, other parties disagree with the inclusion of any mains costs as a customer component and, therefore, I have included this calculation. The Company does not agree with this approach, and continues to support its traditional customer cost study.

Q. Did you prepare a study supporting the intra-class adjustment of storage costs between the SGDS and the SGSS/SCD classes?

A. Yes. At the request of Witness Lai, I prepared a study, included as Exhibit BEE-4, supporting the intra-class adjustment of approximately $600,000 from the SGDS class to the SGSS and SCD classes.

Q. Please describe this study.

A. The study calculates the storage carrying costs, by rate class, by applying the proposed pre-tax rate of return (Line 6) to the allocated storage balances (Line 3), and utilizing Allocation Factor No. 25. The resulting storage carrying costs for the SGS/SGDS class (Line 7) of $2,341,957 includes costs of $597,433 that would, without an adjustment, be assigned to the SGDS class (Line 15). These costs are assigned to the SGSS and SCD classes ratably, using a factor derived from their projected throughput (Lines 13 & 14 under the heading "Ratio"). No other intra-class adjustments are being supported or shown on this exhibit.

Q. Does this complete your direct testimony?

A. Yes, it does.

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Direct Assignment

"Direct Assignment" refers to a specific identification and isolation of plant and/or expenses based on Columbia's accounting records and incurred exclusively to serve a specific customer or group of customers. Instances of the use of direct assignments in the study can be identified by the omission of an allocation factor number (generally in column c) and the use of the term "direct" immediately after the account number. The operative principle is to utilize direct assignment of plant and expenses wherever practicable and to allocate when accounting records do not indicate class categorization.

Factor No. 1 - Design Day

The quantities contained in Factor No. 1 represent the total demand projected to occur at Columbia's design peak day.

Factor No. 2- Throughput Excluding Transportation

Throughput quantities, excluding transportation, for the twelve months ending December 31, 2016 are the basis for Factor No. 2.

Factor No. 3- Throughput Excluding MLDS

Factor No. 3 represents the throughput quantities excluding MLDS quantities for the twelve months ending December 31, 2016.

Factor No. 4- Gas Purchase Expense

Factor No. 4 is based on gas cost assigned to each rate schedule for the twelve months ending December 31, 2016 using the applicable Gas Cost Recovery ("GCR") rates.

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Factor No. 5 - Composite of Factors No. 1 and Throughput

Factor No. 5 combines design day quantities included in Factor No. 1 and throughput quantities for the historic test year ended November 30, 2014 to produce a composite Factor No. 5. Factor No. 5 was used to allocate mains and mains related accounts for the Peak and Average Study. Please see Exhibit BEE-3, Development of Allocation Factors Nos. 5, 20 & 22 for the detail development of Factor No. 5.

Factor No. 6 - Average Number of Customers

Customers for each month of the twelve months ending December 31, 2016 were averaged and used to develop Factor No. 6.

Factor No. 7 – Current DIS Revenue

Factor No. 7 reflects gross charge-offs recorded during the twelve months ending November 30, 2014 to small usage customers through the Company's Distributive Information System ("DIS").

Factor No. 8 – Current GMB/GTS

Factor No. 8 reflects revenue to be billed during the twelve months ending December 31, 2016 to larger sales usage and transportation customers through the Company's Gas Measurement Billing and General Transportation Systems.

Factor No. 9 – Customer Deposits

Factor No. 9 represents customer security deposits collected from customers by class as of November 30, 2014.

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Factor No. 10 - Forfeited Discounts

Factor No. 10 is based on the amount of forfeited discounts billed to customers during the twelve months ended November 30, 2014.

Factor No. 11 - Distribution Plant Excluding Other

Factor No. 11 ratios are based on the spread of distribution plant dollars, excluding gas plant accounts 375.70, 375.71, and 387, to the customer groups resulting from the application of the various allocation factors to each gas plant account. The allocated dollars are aggregated and reduced to percentages to produce Factor No. 11.

Factor No. 12 - Gross Plant

Factor No. 12 ratios are based on the spread of total plant dollars to the customer groups resulting from the application of the various allocation factors to each gas plant account. The allocated dollars are aggregated and reduced to percentages to produce Factor No. 12.

Factor No. 13 – Mains – Account 376

Factor No. 13 reflects the relationship based on the spread of dollars in account 376 Mains among all customer classes that resulted from allocating the Mains using composite Factor No. 5 for the Demand-Commodity Study and Factor No. 20 for the Customer-Demand Study for classes that could not be directly assigned. The dollars are aggregated and reduced to percentages to produce Factor No. 13.

Factor No. 14 – Composite Direct Plant – Accts 376 & 380

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Factor No. 14 reflects the relationship based on the spread of dollars in accounts 376 Mains and 380 Services among all customer classes resulting from the application of the appropriate account allocation factor. The allocated dollars in each account are aggregated and reduced to percentages to produce Factor No. 14.

Factor No. 15 – Direct Assignment - Services

Factor No. 15 – reflects Services – Account 380 assigned by rate schedule based on an actual assignment of services installed on customers' premises. Individual customer services were identified by size kind from the Company's DIS and accumulated by customer class and rate schedule. Based on the historic test year per book data, services were grouped between under three inches and three inches and over. Average unit prices were developed from the data and applied to the number of services under each rate schedule based on size. The resulting values, by rate schedule were converted to percentages and used to allocate service investment and related expenses.

Factor No. 16 – Direct Assignment – Meters

Meters were assigned to the various classes of customers based on meters installed on customers' premises. Columbia recognizes four separate pressure groups for meters. Each varies in cost as the size changes. Individually installed meters as identified on Columbia's DIS were summarized by the four pressure groups. The capitalized property investment, as identified on the Company's books and records for the four pressure groups, was divided by the number of installed meters as reflected on the Company's books and records to develop a cost per meter for each group of meters. The

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costs per meter were multiplied by the identified installed meters on DIS to determine the investment for each customer class. The percentages were developed for account 381 Meter and used for assigning account 381 Meters as well as the investment in account 382 Meter Installations, 383 House Regulators and 384 House Regulator Installations since these costs are incurred in direct relation with meters.

Factor No. 17 – Direct Assignment - Ind M&R

Individual measuring stations are identified on Columbia's plant records by rate schedule. The investments, so segregated, are aggregated and reduced to percentages to produce Factor No. 17.

Factor No. 18 - Other Distribution Expense

Factor No. 18 is based on the spread of dollars to the various classes of customers within the following distribution expense accounts:

Page 7 - Distribution Expense Allocation

Line 19 Account 871 - Distribution Load Dispatch

Line 20 Account 874 - Mains & Services

Line 21 Account 875 - M & R - General

Line 22 Account 876 - M & R - Industrial

Line 23 Account 878 - Meters & House Regulators

Line 24 Account 879 - Customer Installation

Line 29 Account 886 - Structures & Improvements

Line 30 Account 887 - Mains

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Line 31 Account 889 - M & R - General

Line 32 Account 890 - M & R - Industrial

Line 33 Account 892 - Services

Line 34 Account 893 - Meters & House Regulators

Factor No. 19 – O&M Excl Gas Pur, Uncollectibles, & A&G

Factor No. 19 is based on total Operating and Maintenance Expenses (Page 8, Line 34) less Gas Purchased Cost (Page 7, Line 1), Uncollectibles (Page 8, Lines 4, 5, 6 & 7), USP Rider (Page 8, Line 13) and A&G Expenses (Page 8, Line 33).

Factor No. 20 Minimum System Mains

Factor No. 20 is used in the Customer-Demand Study. Please see Exhibit BEE-3, Development of Allocation Factors Nos. 5, 20 & 22 for a description and development of Factor No. 20.

Factor No. 21 – Large Customer Relations

Factor No. 21 is based on the accounts supported by the Large Customer Relations group.

Factor No. 22 –Average Factor Nos. 5 & 20

Factor No. 22 is based on the average of Factor Nos. 5 and 20 on an equal basis and is used to average the Customer-Demand Study and the Peak and Average Study.

Factor No. 23 – Unbundled Uncollectibles

Factor No. 23 is based on the amounts to be billed to customers related to the unbundled uncollectibles accounts for the twelve months ending December 31, 2016.

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTORS

Factor No. 24 - Labor

Factor No. 24 is based on the allocation of labor charges with the various FERC Accounts. The labor dollars allocated to the various rate classes are summed and converted to percentages to create Factor No. 24.

Factor No. 25 – Sales and CHOICE Transportation

Factor No. 25 is based on the sales and CHOICE transportation activity for the twelve months ending December 31, 2016.

Factor No. 26 – House Regulators

Factor No. 26 is based on the bill counts for all customers that are not served by low pressure lines. These counts are segregated by customer class and converted to percentages to create Factor No. 26.

Factor No. 27 – Meters and House Regulators

Factor No. 27 reflects the relationship based on the spread of dollars in accounts 381 Meters, 381.10 Automatic Meter Reading, 382 Meter Installations, 383 House Regulators, and 384 House Regulator Installations (Page 3, Lines 34 through 38) among all customer classes resulting from the application of the appropriate account allocation factor. The allocated dollars in each account are aggregated and reduced to percentages to produce Factor No. 27.

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FACTOR NOS. 5, 20 & 22

Factor No. 5 – Composite of Allocator 1 & Historical Throughput

Factor No. 5 combines the design day quantities included in Factor No. 1 and the throughput quantities, for the historic test year ended November 30, 2014, to produce a composite factor. Factor No. 5 was used to allocate mains and mains related accounts for the Peak and Average Study. This factor reflects an equal weight of design day demand and annual demand under each rate class. The development of the factor is presented on pages 7 - 17 of Exhibit BEE-3.

The total historical cost of the mains, as of November 30, 2014, was obtained from the company's plant accounting system. The quantity of mains was obtained from the company's Geographic Information System ("GIS"), a digital mapping system of the company's distribution system. Additionally, directly assigned mains, for the MLS/MLDS classes, were identified and deducted from the company totals. This data was used to calculate the average cost per foot of each unique combination of kind and size of pipe. From this point, the mains were further grouped into one of the following four allocation categories: 'transmission', 'low pressure', 'regulated non-low pressure' and 'remaining regulated pressure', as explained in Statement No. 7, Pages 6 - 8. The allocation of each of these categories is further explained in Statement No. 7, Pages 8 - 11

From the company's books and records as of the end of the historic test year, the value of all pipe, not directly assigned, is shown on Page 8 Line 22, and again on Page 15, Lines 4 & 9.

The determination of the total cost of $12,083,335 for the transmission pipe was

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DEVELOPMENT OF ALLOCATION FACTORS
FACTOR NOS. 5, 20 & 22

arrived at by multiplying the quantity of each kind and size of this pipe by each respective average cost per unit, as shown on page 9. The allocation of transmission pipe was calculated by applying Allocator No. 1 (total company design day volumes, excluding MLS/MLDS) to the total cost, recognizing that transmission mains are designed to serve an entire geographic area, as shown on Page 18, Line 5.

The determination of the total cost of $217,938,408 for the low pressure only pipe was arrived at by multiplying the quantity of each kind and size of this pipe by each respective average cost per unit, as shown on Pages 10 & 11. The allocation of low pressure pipe was calculated by applying, on a 50-50 basis, historical throughput (low pressure only) by rate class and design day volumes (low pressure only) by rate class to the total cost, as shown on Page 16, Line 15.

The determination of the total cost of $379,849,758 for the regulated non-low pressure pipe was arrived at by multiplying the quantity of each kind and size of this pipe by each respective average cost per unit, as shown on Page 12 The allocation of regulated non-low pressure pipe was calculated by applying, on a 50-50 basis, historical throughput (regulated non-low pressure only) by rate class and design day volumes (regulated non-low pressure only) by rate class to the total cost, as shown on Page 17, Line 10.

The determination of the total cost of $160,511,272 for the remaining regulated pressure pipe was arrived at by multiplying the quantity of each kind and size of this pipe by each respective average cost per unit, as shown on Pages 13 & 14. The allocation of remaining regulated pressure pipe was calculated by applying, on a 50-50

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTORS
FACTOR NOS. 5, 20 & 22

basis, historical throughput (total company excluding MLS/MLDS) by rate class and Allocator No. 1 (total company design day volumes) to the total cost, as shown on Page 17, Line 20.

Each of these four categories of allocated costs were aggregated (Page 17, Line 21), to arrive at a total cost for each rate class. These aggregated amounts were then converted to percentages, as shown on Page 17, Line 22, which formed Allocation Factor No. 5.

Factor No. 20 – 2" Mains Minimum System

Factor No. 20 is a composite using customers and design day quantities to allocate mains. The development of the factor is presented on Pages 18 - 29 of Exhibit BEE-3.

As with Factor No. 5, the total historical cost of the mains, the quantity of mains, and the directly assigned mains were all obtained from the company's systems. Likewise, this data was used to calculate the average cost per foot of each unique combination of kind and size of pipe. Again, the mains were further grouped into one of the following four allocation categories: 'transmission', 'low pressure', 'regulated non-low pressure' and 'remaining regulated pressure', as explained in Statement No. 7, Pages 6 - 8. The allocation of each of these categories is further explained in Statement No. 7, Pages 8 – 11.

The determination of the total cost of $12,083,335 for the transmission pipe was arrived at by multiplying the quantity of each kind and size of this pipe by each

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DEVELOPMENT OF ALLOCATION FACTORS
FACTOR NOS. 5, 20 & 22

respective average cost per unit, as shown on Page 20. The allocation of transmission pipe was calculated by applying Allocator No. 1 (total company design day volumes, excluding MLS/MLDS) to the total cost, recognizing that transmission mains are designed to serve an entire geographic area, as shown on Page 26, Line 14.

For the remaining categories of pipe, a minimum 2" system approach is used. The concept is based on the assumption that in order for a customer to obtain service, mains of at least the most common, minimum size in the distribution system must be present. That portion of the Mains Account investment is considered customer-related and is computed by multiplying the total pipe quantity in the system by the cost per foot for the most prevalent size of mains, that being two inch. The cost of the minimum system, computed in that manner, is divided by the total cost of all mains to arrive at a Customer Component factor. The reciprocal of the Customer Component factor becomes the Demand Component factor and is used to allocate the remaining mains costs which are considered demand related and allocated using the appropriate design day factor.

The already determined total cost of $217,938,408 for the low pressure only pipe was allocated by applying the customer component percentage of 46.358% (Page 27, Line 6) to the average number of low pressure customers, and the demand component percentage 53.642% (Page 27, Line 7) to design day volumes (low pressure only). Finally, these two results (Page 27, Lines 11 & 14) are added together to form the minimum system percentages as shown on Page 27, Line 15.

As with the method for determining the low pressure minimum system

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FACTOR NOS. 5, 20 & 22

percentage, the total cost of $379,849,758 for the regulated non-low pressure only pipe was allocated by applying the customer component percentage of 56.758% (Page 28, Line 6) to the average number of regulated non-low pressure customers, and the demand component percentage 43.242% (Page 28, Line 7) to design day volumes (regulated non-low pressure only). Finally, these two results (Page 28, Lines 11 & 14) are added together to form the minimum system percentages as shown on Page 28, Line 15.

Again, following the same method for determining the low pressure and regulated non-low pressure minimum system percentages, the total cost of $160,511,272 for the remaining regulated pressure pipe was allocated by applying the customer component percentage of 37.543% (Page 29, Line 6) to the average number of company customers (excluding MLS/MLDS), and the demand component percentage 62.457% (Page 29, Line 7) to total company design day volumes (excluding MLS/MLDS). Finally, these two results (Page 29, Lines 11 & 14) are added together to form the minimum system percentages as shown on Page 29, Line 15.

Each of these four categories of allocated costs were aggregated (Page 29, Line 17), to arrive at a total cost for each rate class. These aggregated amounts were then converted to percentages, as shown on Page 29, Line 18, which formed Allocation Factor No. 20.

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FACTOR NOS. 5, 20 & 22

Factor No. 22 – Average of 5 & 20

Factor No. 22 is an average of Factor No. 5 and Factor No. 20 and is applied to mains and mains related costs to produce the Average study.

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS: B.ELLIOTT

1 **Total Company - Average Unit Cost of Mains**

2			Total Company		Direct Assignment		Allocable Pipe		Average
3	Kind	Size	Quantity (Footage)	Amount	Quantity (Footage)	Amount	Quantity (Footage)	Amount	Cost per Foot
4	CAST IRON	3"	12,787	9,295	0	-	12,787	9,295	0.7269
5	CAST IRON	4"	119,726	275,642	0	-	119,726	275,642	2.3023
6	CAST IRON	6"	49,160	107,717	0	-	49,160	107,717	2.1911
7	CAST IRON	8"	13,471	66,288	0	-	13,471	66,288	4.9208
8	CAST IRON	10"	2,202	8,506	0	-	2,202	8,506	3.8628
9	CAST IRON	12"	867	58,051	0	-	867	58,051	66.9560
10	PLASTIC	1"	37,189	139,475	0	-	37,189	139,475	3.7504
11	PLASTIC	1-1/8"	2,303	5,709	0	-	2,303	5,709	2.4790
12	PLASTIC	1-1/4"	393,889	2,182,582	0	-	393,889	2,182,582	5.5411
13	PLASTIC	2"	9,549,727	121,789,892	0	-	9,549,727	121,789,892	12.7532
14	PLASTIC	3"	2,288,845	27,847,440	0	-	2,288,845	27,847,440	12.1666
15	PLASTIC	4"	5,758,209	215,363,249	0	-	5,758,209	215,363,249	37.4011
16	PLASTIC	6"	2,205,373	132,942,884	645	20,688	2,204,728	132,922,196	60.2896
17	PLASTIC	8"	1,037,084	92,547,537	0	-	1,037,084	92,547,537	89.2382
18	PLASTIC	10"	362	74	0	-	362	74	0.2035
19	STEEL	1"	59,460	107,719	0	-	59,460	107,719	1.8116
20	STEEL	1/2"	3	233	0	-	3	233	77.7433
21	STEEL	10"	756,442	20,794,978	0	-	756,442	20,794,978	27.4905
22	STEEL	1-1/2"	15,885	12,649	0	-	15,885	12,649	0.7963
23	STEEL	1-1/4"	304,554	771,004	0	-	304,554	771,004	2.5316
24	STEEL	12"	411,608	24,580,511	0	-	411,608	24,580,511	59.7183
25	STEEL	14"	450	5,167	0	-	450	5,167	11.4820
26	STEEL	16"	321,082	17,565,799	0	-	321,082	17,565,799	54.7082
27	STEEL	2"	4,137,035	9,170,709	840	4,331	4,136,195	9,166,378	2.2161
28	STEEL	20"	34,204	6,961,170	0	-	34,204	6,961,170	203.5192
29	STEEL	2-1/2"	5,025	3,292	0	-	5,025	3,292	0.6552
30	STEEL	3"	1,052,132	3,096,324	0	-	1,052,132	3,096,324	2.9429
31	STEEL	3/4"	8,097	13,153	0	-	8,097	13,153	1.6244
32	STEEL	3-1/2"	8,138	27,469	0	-	8,138	27,469	3.3755
33	STEEL	3-1/4"	653	3,764	0	-	653	3,764	5.7646
34	STEEL	4"	5,571,412	24,464,967	729	7,302	5,570,683	24,457,665	4.3904
35	STEEL	4-1/2"	4,004	24,094	0	-	4,004	24,094	6.0175
36	STEEL	4-7/8"	17,345	19,108	93	41	17,252	19,067	1.1052
37	STEEL	5"	53,378	52,520	0	-	53,378	52,520	0.9839
38	STEEL	5-1/2"	295	343	0	-	295	343	1.1641
39	STEEL	5-1/4"	621	344	0	-	621	344	0.5541
40	STEEL	5-3/16"	19,665	38,663	0	-	19,665	38,663	1.9661
41	STEEL	5-5/8"	21,122	22,430	0	-	21,122	22,430	1.0619

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS: B.ELLIOTT

Total Company - Average Unit Cost of Mains (Cont)

			Total Company		Direct Assignment		Allocable Pipe		Average
	Kind	Size	Quantity (Footage)	Amount	Quantity (Footage)	Amount	Quantity (Footage)	Amount	Cost per Foot
4	STEEL	6"	3,412,553	32,020,924	11,248	85,819	3,401,305	31,935,105	9.3891
5	STEEL	6-1/4"	21,608	6,032	0	-	21,608	6,032	0.2791
6	STEEL	6-5/8"	117,908	744,239	0	-	117,908	744,239	6.3120
7	STEEL	7-5/8"	5,904	15,405	0	-	5,904	15,405	2.6092
8	STEEL	8"	1,671,243	36,232,043	2,767	18,300	1,668,476	36,213,743	21.7047
9	STEEL	8-1/4"	962	3,657	0	-	962	3,657	3.8017
10	STEEL	8-5/8"	8,232	361,804	0	-	8,232	361,804	43.9509
11	STEEL	9-5/8"	1,269	7,380	0	-	1,269	7,380	5.8153
12	WROUGHT IRON	1"	2,719	15,182	0	-	2,719	15,182	5.5836
13	WROUGHT IRON	10"	65,379	683	0	-	65,379	683	0.0104
14	WROUGHT IRON	12"	18,034	5,721	0	-	18,034	5,721	0.3173
15	WROUGHT IRON	2"	43,236	10,346	0	-	43,236	10,346	0.2393
16	WROUGHT IRON	3"	59,545	8,009	0	-	59,545	8,009	0.1345
17	WROUGHT IRON	4"	77,574	4,358	0	-	77,574	4,358	0.0562
18	WROUGHT IRON	6"	81,283	254	0	-	81,283	254	0.0031
19	WROUGHT IRON	6-5/8"	1,622	151	0	-	1,622	151	0.0929
20	WROUGHT IRON	7-5/8"	6,563	2	0	-	6,563	2	0.0004
21	WROUGHT IRON	8"	157,409	2,308	0	-	157,409	2,308	0.0147
22	Total		40,026,847	770,519,253	16,322	136,480	40,010,525	770,382,773	19.2545

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS: B.ELLIOTT

1 **Total Company - Transmission Class Mains**

2				Average	
3	Kind	Size	Quantity	Unit Cost	Amount
4	STEEL	10"	64,241	27.4905	1,766,017
5	STEEL	12"	109,227	59.7183	6,522,851
6	STEEL	16"	13,570	54.7082	742,390
7	STEEL	2"	194	2.2161	430
8	STEEL	4"	5,731	4.3904	25,161
9	STEEL	6"	9,991	9.3891	93,807
10	STEEL	8"	134,888	21.7047	2,927,704
11	WROUGHT IRON	12"	15,680	0.3173	4,975
12	Total		353,522		12,083,335

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS: B.ELLIOTT

1 **Total Company - Distribution Low Pressure Mains**

2				Average	
3	Kind	Size	Quantity	Unit Cost	Amount
4	CAST IRON	3"	12,787	0.7269	9,295
5	CAST IRON	4"	119,470	2.3023	275,056
6	CAST IRON	6"	49,160	2.1911	107,714
7	CAST IRON	8"	13,471	4.9208	66,288
8	CAST IRON	10"	2,202	3.6628	8,506
9	CAST IRON	12"	867	66.9560	58,051
10	PLASTIC	1"	7,811	3.7504	29,294
11	PLASTIC	1-1/8"	1,140	2.4790	2,826
12	PLASTIC	1-1/4"	69,322	5.5411	384,120
13	PLASTIC	2"	1,269,068	12.7532	16,184,678
14	PLASTIC	3"	807,811	12.1666	9,828,313
15	PLASTIC	4"	1,980,358	37.4011	74,067,568
16	PLASTIC	6"	757,916	60.2896	45,694,452
17	PLASTIC	8"	274,954	89.2382	24,536,400
18	PLASTIC	10"	241	0.2035	49
19	STEEL	1"	5,505	1.8116	9,973
20	STEEL	10"	159,251	27.4905	4,377,889.6
21	STEEL	1-1/2"	5,355	0.7963	4,264
22	STEEL	1-1/4"	15,043	2.5316	38,083
23	STEEL	12"	42,158	59.7183	2,517,604
24	STEEL	14"	450	11.4820	5,167
25	STEEL	16"	22,597	54.7082	1,236,241
26	STEEL	2"	911,471	2.2161	2,019,911
27	STEEL	20"	1,668	203.5192	339,470
28	STEEL	2-1/2"	2,894	0.6552	1,896
29	STEEL	3"	571,702	2.9429	1,682,462
30	STEEL	3/4"	164	1.6244	266
31	STEEL	3-1/2"	7,532	3.3755	25,424
32	STEEL	4"	2,987,982	4.3904	13,118,436
33	STEEL	4-1/2"	3,266	6.0175	19,653
34	STEEL	4-7/8"	12,712	1.1052	14,049
35	STEEL	5"	26,356	0.9839	25,932
36	STEEL	5-1/2"	295	1.1641	343
37	STEEL	5-5/8"	16,970	1.0619	18,020
38	STEEL	6"	1,552,591	9.3891	14,577,432
39	STEEL	6-5/8"	83,280	6.3120	525,663
40	STEEL	8"	282,170	21.7047	6,124,415
41	WROUGHT IRON	10"	2,076	0.0104	22

COLUMBIA GAS OF PENNSYLVANIA INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS: B.ELLIOTT

1 **Total Company - Distribution Low Pressure Mains (Cont)**

2				Average	
3	Kind	Size	Quantity	Unit Cost	Amount
4	WROUGHT IRON	12"	2,354	0.3173	747
5	WROUGHT IRON	2"	1,684	0.2393	403
6	WROUGHT IRON	3"	10,159	0.1345	1,366
7	WROUGHT IRON	4"	10,399	0.0562	584
8	WROUGHT IRON	6"	5,308	0.0031	16
9	WROUGHT IRON	8"	4,240	0.0147	62
10	Total		12,114,210		217,938,408 22

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS B ELLIOTT

1 **Total Company - Distribution Regulated Pressure Only Mains**

2				Average	
3	Kind	Size	Quantity	Unit Cost	Amount
4	CAST IRON	4"	256	2.30	589.41
5	PLASTIC	1"	27,818	3.75	104,330.02
6	PLASTIC	1-1/8"	1,120	2.48	2,775.50
7	PLASTIC	1-1/4"	316,105	5.54	1,751,571.77
8	PLASTIC	2"	8,013,766	12.75	102,201,158.64
9	PLASTIC	3"	1,406,003	12.17	17,106,270.38
10	PLASTIC	4"	3,307,413	37.40	123,700,685.10
11	PLASTIC	6"	1,020,120	60.29	61,502,605.65
12	PLASTIC	8"	332,669	89.24	29,686,763.12
13	STEEL	1"	53,955	1.81	97,745.20
14	STEEL	1/2"	3	77.74	219.35
15	STEEL	10"	39,576	27.49	1,087,958.80
16	STEEL	1-1/2"	10,530	0.80	8,384.82
17	STEEL	1-1/4"	289,511	2.53	732,927.01
18	STEEL	12"	43,893	59.72	2,621,194.44
19	STEEL	16"	45,747	54.71	2,502,740.95
20	STEEL	2"	3,224,530	2.22	7,145,880.67
21	STEEL	20"	89	203.52	18,113.21
22	STEEL	3"	471,394	2.94	1,387,264.52
23	STEEL	4"	2,109,931	4.39	9,263,439.92
24	STEEL	5"	27,022	0.98	26,586.95
25	STEEL	6"	938,890	9.39	8,815,334.92
26	STEEL	8"	464,603	21.70	10,084,060.05
27	WROUGHT IRON	2"	3,474	0.24	831.33
28	WROUGHT IRON	6"	771	0.00	2.39
29	WROUGHT IRON	8"	8,438	0.01	124.04
30	Total		22,157,625		379,849,758.16

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS: B.ELLIOTT

Total Company - Remaining Regulated Pressure Mains

	Kind	Size	Quantity	Amount
4	CAST IRON	3"	0	0.36
5	CAST IRON	4"	(0)	(3.14)
6	CAST IRON	6"	0	2.29
7	CAST IRON	8"	0	(0.20)
8	CAST IRON	10"	0	0.07
9	CAST IRON	12"	0	0.03
10	PLASTIC	1"	1,560	5,850.95
11	PLASTIC	1-1/8"	43	107.69
12	PLASTIC	1-1/4"	8,462	46,889.86
13	PLASTIC	2"	266,893	3,404,055.73
14	PLASTIC	3"	75,032	912,856.18
15	PLASTIC	4"	470,438	17,594,796.54
16	PLASTIC	6"	426,692	25,725,137.86
17	PLASTIC	8"	429,461	38,324,373.73
18	PLASTIC	10"	121	24.62
19	STEEL	1"	(0)	0.44
20	STEEL	1/2"	0	13.88
21	STEEL	10"	493,375	13,563,112.60
22	STEEL	1-1/2"	0	0.40
23	STEEL	1-1/4"	(0)	(5.48)
24	STEEL	12"	216,330	12,918,861.23
25	STEEL	14"	0	(0.02)
26	STEEL	16"	239,168	13,084,426.74
27	STEEL	2"	(0)	156.91
28	STEEL	20"	32,447	6,603,587.07
29	STEEL	2-1/2"	2,131	1,396.31
30	STEEL	3"	9,036	26,597.51
31	STEEL	3/4"	7,933	12,886.60
32	STEEL	3-1/2"	606	2,045.15
33	STEEL	3-1/4"	653	3,764.26
34	STEEL	4"	467,039	2,050,627.90
35	STEEL	4-1/2"	738	4,440.68
36	STEEL	4-7/8"	4,540	5,017.86
37	STEEL	5"	0	1.81
38	STEEL	5-1/2"	0	0.01
39	STEEL	5-1/4"	621	344.07
40	STEEL	5-3/16"	19,665	38,663.18
41	STEEL	5-5/8"	4,152	4,409.98

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS: B.ELLIOTT

1 **Total Company - Remaining Regulated Pressure Mains (Cont)**

2

3	Kind	Size	Quantity	Amount
4	STEEL	6"	899,832	8,448,531.78
5	STEEL	6-1/4"	21,608	6,031.68
6	STEEL	6-5/8"	34,628	218,575.42
7	STEEL	7-5/8"	5,904	15,404.79
8	STEEL	8"	786,815	17,077,564.10
9	STEEL	8-1/4"	962	3,657.28
10	STEEL	8-5/8"	8,232	361,803.69
11	STEEL	9-5/8"	1,269	7,379.67
12	WROUGHT IRON	1"	2,719	15,161.68
13	WROUGHT IRON	10"	63,303	661.60
14	WROUGHT IRON	12"	0	(0.87)
15	WROUGHT IRON	2"	38,078	9,111.95
16	WROUGHT IRON	3"	49,386	6,642.78
17	WROUGHT IRON	4"	67,175	3,773.85
18	WROUGHT IRON	6"	75,204	235.25
19	WROUGHT IRON	6-5/8"	1,622	150.66
20	WROUGHT IRON	7-5/8"	6,563	2.36
21	WROUGHT IRON	8"	144,731	2,122.07
22	Total		5,385,168	160,511,272

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS: B.ELLIOTT

Line No.	Description	Alloc	Total Company	RSS/RDS	SGSS/SCD/SGDS	N/A	SDS/LGSS	LDS/LGSS	MLDS
1	**Total Mains Plant in Service**		984,881,701.43						
2	**Direct Assigned Plant**		136,480.33						
3	**Other - Non Pipe**		214,362,448.06						
4	**Allocable Pipe**		770,382,773.04						
5	**Transmission Pipe**		12,083,334.86						
6	**Low Pressure Pipe**		217,938,408.22						
7	**Regulated Pressure Pipe Only**		379,849,756.16						
8	**Remaining Regulated Pressure Pipe**		160,511,271.80						
9	**Allocated Pipe**		770,382,773.04						
10	**Allocation of Transmission Pipe**								
11	Allocable Transmission Pipe		$12,083,334.86						
12	Design Day Volumes (Total Company Excluding MDS)		791,995	458,700	189,733	0	65,702	77,860	
13	Percent Design Day Volumes		100.000%	57.917%	23.956%	0.000%	8.296%	9.831%	
14	**Allocation of Transmission Pipe**		**$12,083,334.86**	**$6,998,305.05**	**$2,894,683.70**	**$0.00**	**1,002,433.46**	**1,187,912.65**	

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 5
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS: B.ELLIOTT

Line No	Description	Alloc	Total Company	RSS/RDS	SGSS/SCD/SGDS	N/A	SDS/LGSS	LDS/LGSS	MLDS
1	**Allocation of Transmission Pipe**								
2	Allocable Transmission Pipe		$12,083,334.86						
3	Design Day Volumes (Total Company Excluding MDS)		791,995	458,700	189,733	0	65,702	77,860	
4	Percent Design Day Volumes		100.000%	57.917%	23.956%	0.000%	8.296%	9.831%	
5	**Allocation of Transmission Pipe**		**$12,083,334.86**	**$6,998,305.05**	**$2,894,683.70**	**$0.00**	**1,002,433.46**	**1,187,912.65**	
6	**Allocation of Low Pressure Pipe**								
7	Allocable Low Pressure Pipe		$217,938,408.22						
8	Throughput Volumes (excl MDS)		24,410,606.0	18,895,849.9	5,143,483.5	0.0	281,055.6	90,217.0	
9	Percent Throughput		100.000%	77.408%	21.071%	0.000%	1.151%	0.370%	
10	Throughput Component		50.000%	38.704%	10.536%	0.000%	0.576%	0.185%	
11	Design Day Volumes (excl MDS)		285,850	224,300	59,495	0	2,053	2	
12	Percent Design Day Volumes		100.000%	78.468%	20.813%	0.000%	0.718%	0.001%	
13	Demand Component		50.000%	39.234%	10.407%	0.000%	0.359%	0.001%	
14	Peak & Average Factor		100.000%	77.936%	20.943%	0.000%	0.935%	0.186%	
15	**Allocation of Low Pressure Pipe**		**$217,938,408.22**	**$169,852,477.83**	**$45,642,840.83**	**$0.00**	**2,037,724.12**	**405,365.44**	

COLUMBIA GAS OF PENNSYLVANIA, INC
DEVELOPMENT OF ALLOCATION FACTOR 5
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
PEAK & AVERAGE

WITNESS: B.ELLIOTT

Line No	Description	Alloc	Total Company	RSS/RDS	SGSS/SCD/SGDS	N/A	SDS/LGSS	LDS/LGSS	MLDS
1	**Allocation of Regulated Pressure Only Pipe**								
2	Allocable Regulated Pressure Only Pipe		$379,849,758.16						
3	Throughput Volumes (excl MDS)		27,537,653.4	11,677,892.2	5,492,697.2	0.0	2,714,731.0	7,652,333.0	
4	Percent Throughput		100.000%	42.407%	19.946%	0.000%	9.858%	27.789%	
5	Throughput Component		50.000%	21.204%	9.973%	0.000%	4.929%	13.895%	
6	Design Day Volumes (excl MDS)		277,730	139,100	71,149	0	35,828	31,653	
7	Percent Design Day Volumes		100.000%	50.085%	25.618%	0.000%	12.900%	11.397%	
8	Demand Component		50.000%	25.043%	12.809%	0.000%	6.450%	5.699%	
9	Peak & Average Factor		100.000%	46.245%	22.782%	0.000%	11.379%	19.594%	
10	**Allocation of Regulated Pressure Only Pipe**		**$379,849,758.16**	**$175,661,520.67**	**$86,537,371.90**	**$0.00**	**43,223,103.98**	**74,427,761.61**	
11	**Allocation of Remaining Regulated Pressure Pipe**								
12	Allocable Remaining Regulated Pressure Pipe		$160,511,271.80						
13	Throughput Volumes (Total Company excl MDS)		81,824,556	38,662,408	16,424,024	0	7,243,498	19,494,626	
14	Percent Throughput		100.000%	47.251%	20.072%	0.000%	8.852%	23.825%	
15	Throughput Component		50.000%	23.626%	10.036%	0.000%	4.426%	11.913%	
16	Design Day Volumes (Total Company excl MDS)		791,995	458,700	189,733	0	65,702	77,860	
17	Percent Design Day Volumes		100.000%	57.917%	23.956%	0.000%	8.296%	9.831%	
18	Demand Component		50.000%	28.959%	11.978%	0.000%	4.148%	4.916%	
19	Peak & Average Factor		100.000%	52.583%	22.014%	0.000%	8.574%	16.829%	
20	**Alloc. of Remaining Regulated Pressure Pipe**		**$160,511,271.80**	**$84,401,642.06**	**$35,334,951.37**	**$0.00**	**13,762,236.44**	**27,012,441.93**	
21	**Total Peak & Average Allocation Factor**		**$770,382,773.04**	**$436,913,945.61**	**$170,409,847.80**	**$0.00**	**60,025,498.00**	**103,033,481.63**	
22			**100.000%**	**56.714%**	**22.120%**	**0.000%**	**7.792%**	**13.374%**	

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS: B.ELLIOTT

1 **Total Company - Average Unit Cost of Mains**

2			Total Company		Direct Assignment		Allocable Pipe		Average
3	Kind	Size	Quantity (Footage)	Amount	Quantity (Footage)	Amount	Quantity (Footage)	Amount	Cost per Foot
4	CAST IRON	3"	12,787	9,295	0	-	12,787	9,295	0.7269
5	CAST IRON	4"	119,726	275,642	0	-	119,726	275,642	2.3023
6	CAST IRON	6"	49,160	107,717	0	-	49,160	107,717	2.1911
7	CAST IRON	8"	13,471	66,288	0	-	13,471	66,288	4.9208
8	CAST IRON	10"	2,202	8,506	0	-	2,202	8,506	3.8628
9	CAST IRON	12"	867	58,051	0	-	867	58,051	66.9560
10	PLASTIC	1"	37,189	139,475	0	-	37,189	139,475	3.7504
11	PLASTIC	1-1/8"	2,303	5,709	0	-	2,303	5,709	2.4790
12	PLASTIC	1-1/4"	393,889	2,182,582	0	-	393,889	2,182,582	5.5411
13	PLASTIC	2"	9,549,727	121,789,892	0	-	9,549,727	121,789,892	12.7532
14	PLASTIC	3"	2,288,845	27,847,440	0	-	2,288,845	27,847,440	12.1666
15	PLASTIC	4"	5,758,209	215,363,249	0	-	5,758,209	215,363,249	37.4011
16	PLASTIC	6"	2,205,373	132,942,884	645	20,688	2,204,728	132,922,196	60.2896
17	PLASTIC	8"	1,037,084	92,547,537	0	-	1,037,084	92,547,537	89.2382
18	PLASTIC	10"	362	74	0	-	362	74	0.2035
19	STEEL	1"	59,460	107,719	0	-	59,460	107,719	1.8116
20	STEEL	1/2"	3	233	0	-	3	233	77.7433
21	STEEL	10"	756,442	20,794,978	0	-	756,442	20,794,978	27.4905
22	STEEL	1-1/2"	15,885	12,649	0	-	15,885	12,649	0.7963
23	STEEL	1-1/4"	304,554	771,004	0	-	304,554	771,004	2.5316
24	STEEL	12"	411,608	24,580,511	0	-	411,608	24,580,511	59.7183
25	STEEL	14"	450	5,167	0	-	450	5,167	11.4820
26	STEEL	16"	321,082	17,565,799	0	-	321,082	17,565,799	54.7082
27	STEEL	2"	4,137,035	9,170,709	840	4,331	4,136,195	9,166,378	2.2161
28	STEEL	20"	34,204	6,961,170	0	-	34,204	6,961,170	203.5192
29	STEEL	2-1/2"	5,025	3,292	0	-	5,025	3,292	0.6552
30	STEEL	3"	1,052,132	3,096,324	0	-	1,052,132	3,096,324	2.9429
31	STEEL	3/4"	8,097	13,153	0	-	8,097	13,153	1.6244
32	STEEL	3-1/2"	8,138	27,469	0	-	8,138	27,469	3.3755
33	STEEL	3-1/4"	653	3,764	0	-	653	3,764	5.7646
34	STEEL	4"	5,571,412	24,464,967	729	7,302	5,570,683	24,457,665	4.3904
35	STEEL	4-1/2"	4,004	24,094	0	-	4,004	24,094	6.0175
36	STEEL	4-7/8"	17,345	19,108	93	41	17,252	19,067	1.1052
37	STEEL	5"	53,378	52,520	0	-	53,378	52,520	0.9839
38	STEEL	5-1/2"	295	343	0	-	295	343	1.1641
39	STEEL	5-1/4"	621	344	0	-	621	344	0.5541
40	STEEL	5-3/16"	19,665	38,663	0	-	19,665	38,663	1.9661
41	STEEL	5-5/8"	21,122	22,430	0	-	21,122	22,430	1.0619

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS B.ELLIOTT

1 **Total Company - Average Unit Cost of Mains (Cont)**

2			Total Company		Direct Assignment		Allocable Pipe		Average
3	Kind	Size	Quantity (Footage)	Amount	Quantity (Footage)	Amount	Quantity (Footage)	Amount	Cost per Foot
4	STEEL	6"	3,412,553	32,020,924	11,248	85,819	3,401,305	31,935,105	9.3891
5	STEEL	6-1/4"	21,608	6,032	0	-	21,608	6,032	0.2791
6	STEEL	6-5/8"	117,908	744,239	0	-	117,908	744,239	6.3120
7	STEEL	7-5/8"	5,904	15,405	0	-	5,904	15,405	2.6092
8	STEEL	8"	1,671,243	36,232,043	2,767	18,300	1,668,476	36,213,743	21.7047
9	STEEL	8-1/4"	962	3,657	0	-	962	3,657	3.8017
10	STEEL	8-5/8"	8,232	361,804	0	-	8,232	361,804	43.9509
11	STEEL	9-5/8"	1,269	7,380	0	-	1,269	7,380	5.8153
12	WROUGHT IRON	1"	2,719	15,182	0	-	2,719	15,182	5.5836
13	WROUGHT IRON	10"	65,379	683	0	-	65,379	683	0.0104
14	WROUGHT IRON	12"	18,034	5,721	0	-	18,034	5,721	0.3173
15	WROUGHT IRON	2"	43,236	10,346	0	-	43,236	10,346	0.2393
16	WROUGHT IRON	3"	59,545	8,009	0	-	59,545	8,009	0.1345
17	WROUGHT IRON	4"	77,574	4,358	0	-	77,574	4,358	0.0562
18	WROUGHT IRON	6"	81,283	254	0	-	81,283	254	0.0031
19	WROUGHT IRON	6-5/8"	1,622	151	0	-	1,622	151	0.0929
20	WROUGHT IRON	7-5/8"	6,563	2	0	-	6,563	2	0.0004
21	WROUGHT IRON	8"	157,409	2,308	0	-	157,409	2,308	0.0147
22	Total		40,026,847	770,519,253	16,322	136,480	40,010,525	770,382,773	19.2545

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS B.ELLIOTT

1 **Total Company - Transmission Class Mains**

2				Average	
3	Kind	Size	Quantity	Unit Cost	Amount
4	STEEL	10"	64,241	27.4905	1,766,017
5	STEEL	12"	109,227	59.7183	6,522,851
6	STEEL	16"	13,570	54.7082	742,390
7	STEEL	2"	194	2.2161	430
8	STEEL	4"	5,731	4.3904	25,161
9	STEEL	6"	9,991	9.3891	93,807
10	STEEL	8"	134,888	21.7047	2,927,704
11	WROUGHT IRON	12"	15,680	0.3173	4,975
12	Total		353,522		12,083,335

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS B.ELLIOTT

Total Company - Distribution Low Pressure Mains

	Kind	Size	Quantity	Average Unit Cost	Amount
4	CAST IRON	3"	12,787	0.7269	9,295
5	CAST IRON	4"	119,470	2.3023	275,056
6	CAST IRON	6"	49,160	2.1911	107,714
7	CAST IRON	8"	13,471	4.9208	66,288
8	CAST IRON	10"	2,202	3.8628	8,506
9	CAST IRON	12"	867	66.9560	58,051
10	PLASTIC	1"	7,811	3.7504	29,294
11	PLASTIC	1-1/8"	1,140	2.4790	2,826
12	PLASTIC	1-1/4"	69,322	5.5411	384,120
13	PLASTIC	2"	1,269,068	12.7532	16,184,678
14	PLASTIC	3"	807,811	12.1666	9,828,313
15	PLASTIC	4"	1,980,358	37.4011	74,067,568
16	PLASTIC	6"	757,916	60.2896	45,694,452
17	PLASTIC	8"	274,954	89.2382	24,536,400
18	PLASTIC	10"	241	0.2035	49
19	STEEL	1"	5,505	1.8116	9,973
20	STEEL	10"	159,251	27.4905	4,377,889.6
21	STEEL	1-1/2"	5,355	0.7963	4,264
22	STEEL	1-1/4"	15,043	2.5316	38,083
23	STEEL	12"	42,158	59.7183	2,517,604
24	STEEL	14"	450	11.4820	5,167
25	STEEL	16"	22,597	54.7082	1,236,241
26	STEEL	2"	911,471	2.2161	2,019,911
27	STEEL	20"	1,668	203.5192	339,470
28	STEEL	2-1/2"	2,894	0.6552	1,896
29	STEEL	3"	571,702	2.9429	1,682,462
30	STEEL	3/4"	164	1.6244	266
31	STEEL	3-1/2"	7,532	3.3755	25,424
32	STEEL	4"	2,987,982	4.3904	13,118,436
33	STEEL	4-1/2"	3,266	6.0175	19,653
34	STEEL	4-7/8"	12,712	1.1052	14,049
35	STEEL	5"	26,356	0.9839	25,932
36	STEEL	5-1/2"	295	1.1641	343
37	STEEL	5-5/8"	16,970	1.0619	18,020
38	STEEL	6"	1,552,591	9.3891	14,577,432
39	STEEL	6-5/8"	83,280	6.3120	525,663
40	STEEL	8"	282,170	21.7047	6,124,415
41	WROUGHT IRON	10"	2,076	0.0104	22

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS: B.ELLIOTT

1 **Total Company - Distribution Low Pressure Mains (Cont)**

2				Average	
3	Kind	Size	Quantity	Unit Cost	Amount
4	WROUGHT IRON	12"	2,354	0.3173	747
5	WROUGHT IRON	2"	1,684	0.2393	403
6	WROUGHT IRON	3"	10,159	0.1345	1,366
7	WROUGHT IRON	4"	10,399	0.0562	584
8	WROUGHT IRON	6"	5,308	0.0031	16
9	WROUGHT IRON	8"	4,240	0.0147	62
10	Total		12,114,210		217,938,408.22

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS: B.ELLIOTT

1 **Total Company - Distribution Regulated Pressure Only Mains**

2				Average	
3	Kind	Size	Quantity	Unit Cost	Amount
4	CAST IRON	4"	256	2.30	589.41
5	PLASTIC	1"	27,818	3.75	104,330.02
6	PLASTIC	1-1/8"	1,120	2.48	2,775.50
7	PLASTIC	1-1/4"	316,105	5.54	1,751,571.77
8	PLASTIC	2"	8,013,766	12.75	102,201,158.64
9	PLASTIC	3"	1,406,003	12.17	17,106,270.38
10	PLASTIC	4"	3,307,413	37.40	123,700,885.10
11	PLASTIC	6"	1,020,120	60.29	61,502,605.65
12	PLASTIC	8"	332,669	89.24	29,686,763.12
13	STEEL	1"	53,955	1.81	97,745.20
14	STEEL	1/2"	3	77.74	219.35
15	STEEL	10"	39,576	27.49	1,087,958.80
16	STEEL	1-1/2"	10,530	0.80	8,384.82
17	STEEL	1-1/4"	289,511	2.53	732,927.01
18	STEEL	12"	43,893	59.72	2,621,194.44
19	STEEL	16"	45,747	54.71	2,502,740.95
20	STEEL	2"	3,224,530	2.22	7,145,880.67
21	STEEL	20"	89	203.52	18,113.21
22	STEEL	3"	471,394	2.94	1,387,264.52
23	STEEL	4"	2,109,931	4.39	9,263,439.92
24	STEEL	5"	27,022	0.98	26,586.95
25	STEEL	6"	938,890	9.39	8,815,334.92
26	STEEL	8"	464,603	21.70	10,084,060.05
27	WROUGHT IRON	2"	3,474	0.24	831.33
28	WROUGHT IRON	6"	771	0.00	2.39
29	WROUGHT IRON	8"	8,438	0.01	124.04
30	Total		22,157,625		379,849,758.16

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS: B.ELLIOTT

1 **Total Company - Remaining Regulated Pressure Mains**

2

3	Kind	Size	Quantity	Amount
4	CAST IRON	3"	0	0.36
5	CAST IRON	4"	(0)	(3.14)
6	CAST IRON	6"	0	2.29
7	CAST IRON	8"	0	(0.20)
8	CAST IRON	10"	0	0.07
9	CAST IRON	12"	0	0.03
10	PLASTIC	1"	1,560	5,850.95
11	PLASTIC	1-1/8"	43	107.69
12	PLASTIC	1-1/4"	8,462	46,889.86
13	PLASTIC	2"	266,893	3,404,055.73
14	PLASTIC	3"	75,032	912,856.18
15	PLASTIC	4"	470,438	17,594,796.54
16	PLASTIC	6"	426,692	25,725,137.86
17	PLASTIC	8"	429,461	38,324,373.73
18	PLASTIC	10"	121	24.62
19	STEEL	1"	(0)	0.44
20	STEEL	1/2"	0	13.88
21	STEEL	10"	493,375	13,563,112.60
22	STEEL	1-1/2"	0	0.40
23	STEEL	1-1/4"	(0)	(5.48)
24	STEEL	12"	216,330	12,918,861.23
25	STEEL	14"	0	(0.02)
26	STEEL	16"	239,168	13,084,426.74
27	STEEL	2"	(0)	156.91
28	STEEL	20"	32,447	6,603,587.07
29	STEEL	2-1/2"	2,131	1,396.31
30	STEEL	3"	9,036	26,597.51
31	STEEL	3/4"	7,933	12,886.60
32	STEEL	3-1/2"	606	2,045.15
33	STEEL	3-1/4"	653	3,764.26
34	STEEL	4"	467,039	2,050,627.90
35	STEEL	4-1/2"	738	4,440.88
36	STEEL	4-7/8"	4,540	5,017.86
37	STEEL	5"	0	1.81
38	STEEL	5-1/2"	0	0.01
39	STEEL	5-1/4"	621	344.07
40	STEEL	5-3/16"	19,665	38,663.18
41	STEEL	5-5/8"	4,152	4,409.98

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS: B.ELLIOTT

Total Company - Remaining Regulated Pressure Mains (Cont)

	Kind	Size	Quantity	Amount
4	STEEL	6"	899,832	8,448,531.78
5	STEEL	6-1/4"	21,608	6,031.68
6	STEEL	6-5/8"	34,628	218,575.42
7	STEEL	7-5/8"	5,904	15,404.79
8	STEEL	8"	786,815	17,077,564.10
9	STEEL	8-1/4"	962	3,657.28
10	STEEL	8-5/8"	8,232	361,803.89
11	STEEL	9-5/8"	1,269	7,379.67
12	WROUGHT IRON	1"	2,719	15,181.68
13	WROUGHT IRON	10"	63,303	661.60
14	WROUGHT IRON	12"	0	(0.87)
15	WROUGHT IRON	2"	38,078	9,111.95
16	WROUGHT IRON	3"	49,386	6,642.78
17	WROUGHT IRON	4"	67,175	3,773.85
18	WROUGHT IRON	6"	75,204	235.25
19	WROUGHT IRON	6-5/8"	1,622	150.66
20	WROUGHT IRON	7-5/8"	6,563	2.36
21	WROUGHT IRON	8"	144,731	2,122.07
22	Total		5,385,168	160,511,272

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS: B.ELLIOTT

Line No.	Description	Alloc	Total Company	RSS/RDS	SGSS/SCD/SGDS	N/A	SDS/LGSS	LDS/LGSS	MLDS
1	**Total Mains Plant in Service**		984,881,701.43						
2	**Direct Assigned Plant**		136,480.33						
3	**Other - Non Pipe**		214,362,448.06						
4	**Allocable Pipe**		770,382,773.04						
5	**Transmission Pipe**		12,083,334.86						
6	**Low Pressure Pipe**		217,938,408.22						
7	**Regulated Pressure Pipe Only**		379,849,758.16						
8	**Remaining Regulated Pressure Pipe**		160,511,271.80						
9	**Allocated Pipe**		770,382,773.04						
10	**Allocation of Transmission Pipe**								
11	Allocable Transmission Pipe		$12,083,334.86						
12	Design Day Volumes (Total Company Excluding MDS)		791,995	458,700	189,733	0	65,702	77,860	
13	Percent Design Day Volumes		100.000%	57.917%	23.956%	0.000%	8.296%	9.831%	
14	**Allocation of Transmission Pipe**		**$12,083,334.86**	**$6,998,305.05**	**$2,894,683.70**	**$0.00**	**1,002,433.46**	**1,187,912.65**	

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS: B.ELLIOTT

Line No.	Description	Alloc	Total Company	RSS/RDS	SGSS/SCD/SGDS	N/A	SDS/LGSS	LDS/LGSS	MLDS
1	**Allocation of Low Pressure Pipe**								
2			Footage	Amount	Unit Cost				
3	2" Pipe		2,182,223	$18,204,991.88	$8.34				
4	All Pipe		12,114,210	217,938,408.22					
5	Unit Cost of 2" x All Pipe Footage			$101,032,511.40					
6	Customer Component			46.358%					
7	Demand Component			53.642%					
8	Allocable Low Pressure Pipe		$217,938,408.22						
9	Number of Customers (excl MDS)		188,289	172,366	15,903	0	19	1	
10	Percent Customers		100.000%	91.543%	8.446%	0.000%	0.010%	0.001%	
11	Customer Component		46.358%	42.438%	3.915%	0.000%	0.005%	0.000%	
12	Design Day Volumes (excl MDS)		285,850	224,300	59,495	0	2,053	2	
13	Percent Design Day Volumes		100.000%	78.468%	20.813%	0.000%	0.718%	0.001%	
14	Demand Component		53.642%	42.092%	11.165%	0.000%	0.385%	0.001%	
15	Minimum System Allocation Factor		100.000%	84.529%	15.080%	0.000%	0.390%	0.001%	
16	**Allocation of Low Pressure Pipe**		**$217,938,408.22**	**$184,221,157.09**	**$32,865,111.96**	**$0.00**	**849,959.79**	**2,179.38**	

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS: B.ELLIOTT

Line No	Description	Alloc	Total Company	RSS/RDS	SGSS/SCD/SGDS	N/A	SDS/LGSS	LDS/LGSS	MLDS
1	**Allocation of Regulated Pressure Pipe Only**								
2			Footage	Amount	Unit Cost				
3	2" Pipe		11,241,770	$109,347,870.64	$9.73				
4	All Pipe		22,157,625	379,849,758.16					
5	Unit Cost of 2" x All Pipe Footage			$215,593,692.42					
6	Customer Component			56.758%					
7	Demand Component			43.242%					
8	Allocable Regulated Pressure Only Pipe		$379,849,758.16						
9	Number of Customers (excl MDS)		134,665	122,867	11,589	0	163	46	
10	Percent Customers		100.000%	91.239%	8.606%	0.000%	0.121%	0.034%	
11	Customer Component		56.758%	51.785%	4.885%	0.000%	0.069%	0.019%	
12	Design Day Volumes (excl MDS)		277,730	139,100	71,149	0	35,828	31,653	
13	Percent Design Day Volumes		100.000%	50.085%	25.618%	0.000%	12.900%	11.397%	
14	Demand Component		43.242%	21.658%	11.078%	0.000%	5.578%	4.928%	
15	Minimum System Allocation Factor		100.000%	73.443%	15.963%	0.000%	5.647%	4.947%	
16	**Allocation of Regulated Pressure Only Pipe**		**$379,849,758.16**	**$278,973,057.88**	**$60,635,416.90**	**$0.00**	**21,450,115.84**	**18,791,167.54**	

COLUMBIA GAS OF PENNSYLVANIA, INC.
DEVELOPMENT OF ALLOCATION FACTOR 20
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2014

ALLOCATED COST OF SERVICE
CUSTOMER/DEMAND

WITNESS: B.ELLIOTT

Line No.	Description	Alloc	Total Company	RSS/RDS	SGSS/SCD/SGDS	N/A	SDS/LGSS	LDS/LGSS	MLDS
1	**Allocation of Remaining Regulated Pressure Pipe**								
2			Footage	Amount	Unit Cost				
3	2" Pipe		304,971	$3,413,324.59	$11.19				
4	All Pipe		5,385,168	160,511,271.80					
5	Unit Cost of 2" x All Pipe Footage			$60,260,027.09					
6	Customer Component			37.543%					
7	Demand Component			62.457%					
8	Allocable Remaining Regulated Pressure Pipe		$160,511,271.80						
9	Number of Customers (Total Company excl MDS)		418,439	381,074	36,801	0	466	98	
10	Percent Customers		100.000%	91.071%	8.795%	0.000%	0.111%	0.023%	
11	Customer Component		37.543%	34.191%	3.302%	0.000%	0.042%	0.009%	
12	Design Day Volumes (Total Company excl MDS)		791,995	458,700	189,733	0	65,702	77,860	
13	Percent Design Day Volumes		100.000%	57.917%	23.956%	0.000%	8.296%	9.831%	
14	Demand Component		62.457%	36.173%	14.962%	0.000%	5.181%	6.140%	
15	Minimum System Allocation Factor		100.000%	70.364%	18.264%	0.000%	5.223%	6.149%	
16	**Alloc. of Remaining Regulated Pressure Pipe**		**$160,511,271.80**	**$112,942,151.29**	**$29,315,778.68**	**$0.00**	**8,383,503.73**	**9,869,838.10**	
17	**Total Minimum System Allocation Factor**		**$770,382,773.04**	**$583,134,671.31**	**$125,710,991.24**	**$0.00**	**31,686,012.82**	**29,851,097.67**	
18			**100.000%**	**75.694%**	**16.318%**	**0.000%**	**4.113%**	**3.876%**	

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

GROSS INTANGIBLE & DISTRIBUTION PLANT - GENERAL LEDGERS 101, 106 AND 107 – PAGE 3

INTANGIBLE PLANT - PAGE 3 (101-106-107)

Accounts 301, 302 and 303

Intangible plant was allocated on the basis of Distribution plant excluding Accounts 375.7, 375.71 and 387, Factor No. 11, due to its indirect relationship with all other plant.

UNDERGROUND STORAGE PLANT - PAGE 3 (101-106-107)

Accounts 350 through 355

Underground Storage Plant was allocated using Factor No. 25 – Sales and CHOICE Transportation activity for the twelve months ending December 31, 2015 reflecting its peaking support for sales and CHOICE customers.

DISTRIBUTION PLANT - PAGE 3 (101-106-107)

Account 375.60

Structures for large customers, not directly assigned, were allocated using Factor No. 17 since these structures house measuring and regulating stations serving the larger customer groups only.

Account 376 – Mains

Non-directly assigned mains were allocated by rate schedule based on the weighting of design day and annual throughput, Factor No. 5, for the Peak and Average study. For the Customer-Demand study such investment was based on Factor No. 20 which provides a customer component based on a two inch "Minimum System" with the remaining portion assigned on design-day. For the Average study, Factor No. 5 and Factor No. 20 are

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

averaged to assign the Mains costs to the various rate schedules. Please see Exhibit BEE-2 for a detailed description of Factor Nos. 5 and 20.

Direct Mains

Mains for Main Line Delivery Service ("MLDS") were identified by reviewing the Company's maps and accounting records and directly assigned to this class. Due to the unique characteristics of these customers, i.e., proximity to an interstate pipeline company and minimal Company investment, the investment was directly assigned.

Mains - Related Accts

Accounts related to/or supports the mains gas plant account were allocation on Factor No. 5 under the Peak and Average study, Factor No. 20 under the Customer-Demand study, and Factor No. 22 under the Average study since these accounts directly support the mains investment. The mains-related accounts generally include the follow gas plant accounts: 374.10, 374.20, 374.30, 374.40, 374.41, 374.50, 375.20, 375.31, 375.40, 375.80, 378.10, 378.20, 378.30, 379.10 and 379.11.

Direct Mains - Related Accts

Similar to Mains - Related Accounts above, these accounts support the mains that were directly assigned to MLDS and include accounts 374.40, 374.50, 375.40, and 378.20. Also, Direct – Mains, the amounts were identified from the Company's maps and accounting records and directly assigned.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

Account 380 - Services

Account 380 - Services was assigned by rate schedule based on a direct assignment of the investment costs. A more detailed description of the study is contained in Exhibit BEE-2 the Development of Allocation Factors.

Account 380 – Direct Services

As with Mains, services for MLDS were identified by reviewing the Company's maps and accounting records and directly assigned to this class. Due to the unique characteristics of these customers, i.e., proximity to an interstate pipeline company and minimal Company investment, the investment was directly assigned.

Accounts 381 and 382

Meters and Meter Installations were allocated using Factor No. 16, which was based on an actual inventory of meters installed on customer premises as explained in Exhibit BEE-2, the Development of Allocation Factors and Statement No. 7. This methodology represents virtually a direct assignment of costs to the various customer groups.

Accounts 383 and 384

House Regulators and House Regulator Installations were allocated using Factor No. 26, which was based on an actual inventory of house regulators installed on customer premises as explained in Exhibit BEE-2, the Development of Allocation Factors and Statement No. 7.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

Account 385

Industrial Measuring and Regulating Stations were allocated using Factor No. 17, which was based on a review of Columbia's records as explained in Exhibit BEE-2, the Development of Allocation Factors. Measuring stations were segregated by rate schedule.

Dist Plant Excl Other Allocated

This investment consists of gas plant accounts 375.70, 375.71 and all 387 and was allocated to the various rate schedules using Factor No. 11. Factor No. 11 was based on distribution plant specifically assigned and was used to assign general investment and costs that support the distribution system.

General Plant

General plant includes items such as general tools (cars, trucks, backhoes, etc), communication equipment, office furniture and fixtures, and other miscellaneous equipment. Consistent with general distribution plant, this plant investment supports the delivery of natural gas. Therefore, Factor No. 11 was used to assign the investment.

RESERVE FOR DEPRECIATION - PAGE 4

Depreciation Reserve was calculated on an account by account basis using the same allocation factors that were used to allocate all gross plant accounts.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

DEPRECIATION & AMORTIZATION EXPENSE and NET NEGATIVE SALVAGE - PAGE 5

Depreciation and amortization expense was allocated by gas plant account on the same allocations as the Gross Original Cost. Amortization of net negative salvage was allocated using Factor 11 based on its remediation of distribution type facilities.

OPERATING REVENUE AT CURRENT AND PROPOSED RATES - PAGE 6

Sales and Transportation Revenue

Sales and transportation revenue was directly assigned as presented in Exhibit No. 103 for the fully forecasted rate year and supported by Company witness Lai.

Accounts 487

Forfeited discounts were allocated using Factor No. 10, which was developed from actual forfeited discounts billed by rate class during the historic test year twelve months ended November 30, 2014.

Accounts 488, 493 and 495

Miscellaneous Revenue and Other revenue were allocated using Factor No. 6 - Average Number of Customers since costs incurred throughout these accounts are directly related to the customers served. Rent Revenue was allocated using Factor No. 11 because the rent is derived mostly from the rent of company-owned office buildings, making the use of the Distribution Plant allocator appropriate.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

OPERATING EXPENSES – PURCHASED GAS EXPENSES - PAGE 7

Gas purchased cost

These costs were directly assigned based on revenue for the fully forecasted rate year as presented in Exhibit No. 103.

Account 807

Gas Purchase Expense and Gas Procurement Expenses were allocated using Factor No. 4, which is based on the direct assignment of gas costs. Factor No. 4 was used reflecting the relationship of these costs to gas purchase costs. Gas purchase expense related to the gas procurement activity was also allocated using Factor No. 4.

OPERATING EXPENSES – UNDER STORAGE EXPENSES - PAGE 7

Accounts 814 through 837

Underground Storage Plant Expense was allocated using Factor No. 25 – Sales and CHOICE Transportation.

DISTRIBUTION EXPENSES – OPERATIONS - PAGE 7

Accounts 870, 880, 881

General costs for supervision and engineering, rents and other items of the distribution function were allocated using Factor No. 18, Other Distribution Expense, since these costs benefit customers in the way that all other distribution costs provide benefit.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

Account 871

Distribution Load Dispatch Expenses were allocated on Factor No. 13 – Direct Plant – Mains since these are costs incurred monitoring and directing the flow of gas through the distribution system.

Account 874

Mains and Services Operation Expenses (a dual function account) were allocated on Factor No. 14 – Composite Direct Plant - Mains and Services combined.

Accounts 875

Factor No. 13 was used to allocate expenses for distribution load dispatch, general measurement and regulator stations and related structures since these costs are incurred in direct relation with mains.

Accounts 876

Expenses for Measurement and Regulator ("M&R") Station Equipment – Industrial ("IND") were allocated using Factor No. 17 – Direct Assignment – IND M&R - since these costs are incurred in direct association with the stations in Account 385.

Accounts 878 and 879

Meters and House Regulators Expenses were allocated using Factor No. 27, which was based on an actual inventory of meters and house regulators installed on customer premises as explained in Exhibit BEE-2, the Development of Allocation Factors, and Statement No. 7. Expenses for Customer Installations were allocated using Factor No. 15 because these expenses are related to the installation of customer service lines.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

DISTRIBUTION EXPENSES – MAINTENANCE - PAGE 7

Accounts 885 and 894

General costs for supervision and engineering and maintenance costs of other equipment of the distribution function were allocated using Factor No. 18 other distribution expense since these costs benefit customers in the same way that all other distribution costs provide benefit.

Account 886

Structures and Improvements Expense was allocated using Factor No. 13, reflecting the spread of Account 376 Mains among all customer classes, because these plant and expense functions are directly related.

Account 887

Mains Maintenance Expense was allocated using Factor No. 13, which reflects the spread of Account 376 Mains among all customer classes, since plant and expense functions are directly related.

Accounts 889

Factor No. 13 was used to allocate expenses for distribution load dispatch, general measurement and regulator stations and related structures since these costs are incurred in direct relation with mains.

Accounts 890

Expenses for Measurement and Regulator Station Equipment - Industrial were allocated using Factor No. 17 - Direct Assignment – IND M&R - since these costs are incurred in direct relation with the stations in Account 385.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

Account 892

Expenses for Services were allocated using Factor No. 15 which was based on size of service and size of customer as explain above under Gas Plant Account 380 – Services and in Statement No. 7.

Account 893

Meters and House Regulators Expenses and Customer Installations were allocated using Factor No. 27 which was based on an actual inventory of meters and house regulators installed on customer premises as explained in Exhibit BEE-2, the Development of Allocation Factors, and Statement No. 7. This methodology represents virtually a direct assignment of costs to the various customer classes.

CUSTOMER ACCOUNTS, CUSTOMER SERVICE AND INFORMATIONAL AND SALES EXPENSES - PAGE 8

Account 904 – Uncollectibles – DIS Revenue & Uncollectibles GMB/GTS Revenue

These cost categories represent traditional bad debts. They have been separated between the two classes of customers and allocated based on the historical charge-offs and revenue, related to each, as included in Factor No. 7 for DIS and Factor No. 8 for GMB/GTS, respectively.

Account 904 Uncollectibles – Unbundled

These costs were directly assigned to each rate schedule consistent with the levels included in revenue for the fully forecasted rate year as presented in Exhibit No. 103. Factor No. 23 reflects this assignment.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

Account 904 – Direct USP Uncollectibles

These uncollectibles are directly related to the Company's Customer Assistance Program available to residential customers and are recoverable from the residential class whether sales or delivery service. The amounts shown are reflected in revenue for the fully forecasted rate year as presented in Exhibit No. 103.

Customer Accounts

Customer Accounts include meter reading, customer records, and credit and collection activities recorded in accounts 901 through 903, 905, and 921. These costs were allocated using Factor No. 6, Average Number of Customers, since they are directly related to the number of customers served. Interest on Customer Deposits was allocated using Factor No. 9 because the interest is directly related to the amount of customer deposits.

Customer Service Information

Customer Service and Informational Costs are reflected in accounts 907 through 910 plus related costs in 921 and 931. These costs were allocated using Factor No. 6 since all customers may benefit except account 908 – Direct USP/LIURP/HEEP. These costs include the recovery of specific customer programs benefiting residential customers. The amounts reflect the recovery included in revenue as presented in Exhibit No. 103 for the fully forecasted rate year. Account 910, Large Customer Relations, was allocated using Factor No. 21 which is based on the number of accounts managed by this group.

Sales Expense

Sales expenses, accounts 912 and 913, were allocated using Factor No. 6, Average Number of Customers, since these activities directly support customers served.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

ADMINISTRATIVE AND GENERAL EXPENSES - PAGE 8

Admin. & General Expenses (Line 33)

General Office Expenses, and to a lesser degree, District and Local Office Expenses in this function classification, plus company-wide expenses excluding Employee Benefits, account 926, such as Injuries and Damages, Insurance, and Regulatory Commission Expense were all allocated using Factor No. 19 - Total Operation & Maintenance Excluding Gas Purchased, A & G, Uncollectibles and USP rider costs. These costs are regarded as overhead to the entire company operation and, therefore, follow the allocation of the aggregate of all other previously allocated O&M costs. Employee Pensions & Benefits, account 926, was allocated on Factor No. 24, Labor, since they are directly related to company labor.

TAXES OTHER THAN INCOME - PAGE 9

Property taxes are directly related to tangible property and, accordingly, have been allocated based on Factor No. 11 - Distribution Plant excluding Other due to a direct relationship with Plant in Service. Similarly, PA Capital Stock and License and Franchise Taxes were allocated using Factor No. 11 as they are also related to Plant in Service. Federal Unemployment Insurance, State Unemployment Insurance and F.I.C.A. (payroll based taxes) are all labor-related and, accordingly, have been allocated based on Factor No. 24 – Labor. State Sales and Use Tax and Other Taxes were allocated using Factor 19 since these taxes are generally related to the purchase of supplies.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

RATE BASE SUMMARY - PAGE 10

Account 154

Materials and Supplies were allocated based on Factor 11, Distribution Plant Excluding Other, reflecting the primary future use of such inventory.

Account 164 & 117

Gas Stored Underground, both current and long term, was allocated based on Factor No. 25, Sales and CHOICE Transportation, reflecting the support of these customers in meeting their design day and seasonal requirements.

Account 165

Prepayments consist primarily of commission fees and corporate insurance. Therefore, these costs were allocated using Factor 19, Total O&M Excluding Gas Purchased Costs, A&G, Uncollectibles, and USP Rider Costs.

Accounts 190, 282 and 283

All deferred income taxes included in rate base are plant related and, therefore, Factor No. 12, Gross Plant, was used.

Account 235

Customer Deposits were allocated using Factor 9, Direct Assignment – Customer Deposits.

Accounts 252 and 186

Customer advances, other deferred credit and materials and supplies were allocated using Factor No. 11 - Distribution Plant Excluding Other, due to their direct relationship with all other gas plant accounts.

COLUMBIA GAS OF PENNSYLVANIA, INC.
FACTOR SELECTION AND RATIONALE

FEDERAL AND STATE INCOME TAX - PAGE 11

All of the Company's tax adjustments over book are plant related, i.e., tax depreciation over book depreciation. Therefore, the tax deductions were allocated using Factor No. 12, Gross Plant.

In calculating the Federal and State income taxes for each rate schedule, the effective Federal and State income tax rates were used. Income taxes were calculated for each customer class.

Columbia Gas of Pennslyvania, Inc.
Intra Class Adjustment from SGDS to SGSS and SCD at Proposed ROE of 10.95%
For the 12 Months Ending December 31, 2016

Ln. No.	Item	Total	RSS/RDS	SGSS/SCD/SGDS	N/A	SDS/LGSS	LDS/LGSS	MLDS
1	Account 117	3,794,693	2,619,173	1,170,511	-	-	-	5,009
2	Account 164	58,489,294	40,370,481	18,041,608	-	-	-	77,206
3	Allocated Storage Per ACOS Study using Allocation Factor #25	62,283,987	42,989,654	19,212,119	-	-	-	82,215
4	Sales & CHOICE Transportation (Dth)	49,155,214.1	33,927,676.1	15,162,538.0	0.0	0.0	0.0	65,000.0
5	Factor 25 Allocation of Storage	100%	69.022%	30.846%	0.000%	0.000%	0.000%	0.132%
6	Pre-Tax as Filed	12.190%	12.190%	12.190%	12.190%	12.190%	12.190%	12.190%
7	Revenue Requirement related to storage assigned to rate schedule (Ln. 6 * Ln. 7)	7,592,418	5,240,439	2,341,957	-	-	-	10,022
8	Rate Per Dth	0.1545						

Ln. No.		Total DTH	% of Total	Included In Proposed Rates	Ratio	Redistributed Per Settlement
9						
10						
11						
12						
13	SGSS - Subject to Storage	9,128,567.8	60.290%	1,411,966	0.8095	483,622
14	SCD - Subject to Storage	2,149,044.4	14.190%	332,324	0.1905	113,811
15	SGDS - Not Subject to Storage	3,862,725.8	25.510%	597,433		(597,433)
		15,140,338	100.000%	2,341,957		-