OCA Statement No. 4

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION	)	
v.	)	Docket No. R-2020-3018835
COLUMBIA GAS OF PENNSYLVANIA, INC.	)	

DIRECT TESTIMONY OF

JEROME D. MIERZWA

ON BEHALF OF THE

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

July 28, 2020

EXETER
ASSOCIATES, INC.
10480 Little Patuxent Parkway, Suite 300
Columbia, Maryland 21044

TABLE OF CONTENTS

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jerome D. Mierzwa. I am a Principal and Vice President of Exeter Associates, Inc. ("Exeter"). My business address is 10480 Little Patuxent Parkway, Suite 300, Columbia, Maryland 21044. Exeter specializes in providing public utility-related consulting services.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I graduated from Canisius College in Buffalo, New York in 1981 with a Bachelor of Science Degree in Marketing. In 1985, I received a Master's Degree in Business Administration with a concentration in finance, also from Canisius College. In July 1986, I joined National Fuel Gas Distribution Corporation ("NFGD") as a Management Trainee in the Research and Statistical Services ("RSS") Department. I was promoted to Supervisor RSS in January 1987. While employed with NFGD, I conducted various financial and statistical analyses related to the company's market research activity and state regulatory affairs. In April 1987, as part of a corporate reorganization, I was transferred to National Fuel Gas Supply Corporation's ("NFG Supply's") rate department where my responsibilities included utility cost-of-service and rate design analysis, expense and revenue requirement forecasting, and activities related to federal regulation. I was also responsible for preparing NFG Supply's Federal Energy Regulatory Commission ("FERC") Purchased Gas Adjustment ("PGA") filings and developing interstate pipeline and spot market supply gas price projections. These forecasts were utilized for internal planning purposes as well as in NFGD's 1307(f) proceedings.

In April 1990, I accepted a position as a Utility Analyst with Exeter. In December 1992, I was promoted to Senior Regulatory Analyst. Effective April 1996, I became a Principal of Exeter. Since joining Exeter, I have specialized in evaluating the gas purchasing practices and policies of natural gas utilities, utility class cost-of-service and rate design analyses, sales and rate forecasting, performance-based incentive regulation, revenue requirement analysis, the unbundling of utility services, and evaluation of customer choice natural gas transportation programs.

Q. HAVE YOU PREVIOUSLY TESTIFIED ON UTILITY RATES IN REGULATORY PROCEEDINGS?

A. Yes. I have provided testimony on more than 350 occasions in proceedings before the FERC and utility regulatory commissions in Arkansas, Delaware, Georgia, Illinois, Indiana, Louisiana, Maine, Massachusetts, Montana, Nevada, New Jersey, Ohio, Rhode Island, South Carolina, Texas, Utah, and Virginia, as well as before the Pennsylvania Public Utility Commission ("Commission").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. On April 24, 2020, Columbia Gas of Pennsylvania, Inc. ("CPA" or "Company") filed an application with the Commission to increase its distribution base rates by $100.4 million, or 17.5 percent. Exeter was retained by the Pennsylvania Office of Consumer Advocate ("OCA") to review the cost-of-service studies and rate design proposals included in CPA's application, as well as the Company's proposals to modify its Weather Normalization Adjustment ("WNA") and to adopt a Revenue Normalization Adjustment ("Rider RNA"). My testimony addresses CPA's allocated cost-of-service ("ACOS") Studies and rate design, as well as the Company's WNA and Rider RNA proposals.

Q. HAVE YOU PREPARED EXHIBITS TO ACCOMPANY YOUR TESTIMONY?

A. Yes, I have. Schedules JDM-1 through JDM-3 are attached to my direct testimony.

Q. SHOULD CPA BE GRANTED A RATE INCREASE BY THE COMMISSION IN THIS PROCEEDING?

A. No. As explained in the Direct Testimony of Scott J. Rubin in OCA Statement No. 1, as a consequence of the coronavirus ("COVID-19") pandemic devasting the health and economy of the Commonwealth and the world, the Commission cannot rely on many of the Fully Projected Future Test Year ("FPFTY") projections included in CPA's Application. In addition, as a result of the COVID-19 pandemic, it would not be just or reasonable to impose a rate increase at this time when unemployment numbers are close to record-highs and the economic effects of the pandemic will not be fully known for some time. Therefore, the Commission should deny CPA any rate increase in this proceeding.

Q. PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS.

A. If the Commission agrees that no increase is appropriate in this proceeding, CPA's existing base rates and charges should remain unchanged. If the Commission determines that a base rate increase for CPA is warranted, that increase should be assigned to each customer class through proportionate system average increases to the base rates applicable for each customer class. If the Commission determines, however, that the traditional base rate setting process should be followed in this proceeding, wherein rates are based on cost of service and other generally accepted rate design principles, I have reached the following conclusions:

- Typical of a natural gas distribution company ("NGDC"), a significant percentage of CPA's plant, 65 percent, is comprised of transmission and distribution mains.

- CPA is sponsoring ACOS Studies in its application using two different methodologies, each at present and proposed rates. Under one method, distribution mains investment is allocated partially based on the number of customers and partially based on design day demands ("Customer-Demand Study"). Under the second method, distribution mains investment is allocated utilizing the Peak and Average method ("Peak & Average Study"). CPA's application also includes a third ACOS study that reflects an average of the Customer-Demand and Peak & Average ACOS Studies ("Average Study"). CPA relies on the Average Study to support its proposed revenue distribution among its various customer classes.

- Under each of the Company's ACOS Studies, distribution mains investment has been assigned to one of three categories, and the mains investment assigned to each category has been separately allocated to customer class consistent with the selected ACOS methodology (i.e., either the Customer-Demand or Peak & Average method). CPA's assignment of distribution mains to separate categories is unreasonable, and the Company's ACOS Studies, which rely on the assignment of distribution mains to separate categories, should be rejected.

- In addition, the Company's Customer-Demand methodology misallocates distribution mains plant investment and related costs, and this method produces results that do not reasonably reveal an accurate indication of class-allocated cost responsibilities and should be rejected.

- The Peak & Average Study presented by the OCA in this proceeding reflects an allocation of distribution mains investment that is more consistent with established Commission precedent and cost-of-service principles.

- Columbia's Peak & Average Study produces results consistent with the ACOS Study filed in the most recent base rate proceeding of Columbia Gas of Massachusetts ("CMA"), a CPA affiliate at the time, which relied on the Proportional Responsibility method to allocate distribution mains investment.

- CPA's proposed revenue distribution, based on its Average Study, is not reasonably allocated among its customer classes.

- The revenue distribution in this proceeding should be guided by the results of the OCA's Peak & Average Study.

- CPA's proposed Residential customer charge is unreasonable and should be rejected.

Irrespective of what the Commission decides in this proceeding with respect to the base rate increase, which should not be authorized, and the allocation of that

increase to the various customer classes served by CPA, I recommend the following concerning other issues raised by the Company's application:

- CPA's proposal to eliminate the 3 percent WNA deadband should be rejected.
- CPA's proposed Rider RNA should be rejected.

Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?

A. Including this introductory section, my testimony is divided into six sections. In the following section, I detail the reasons that support a finding that CPA's Average Study produces an inaccurate indication of the allocated costs of serving the Company's various customer classes. The next section addresses class revenue requirement allocations. The fourth section of my testimony addresses CPA's proposed Residential rate design. The next section of my testimony addresses CPA's proposals to make its pilot WNA a permanent component of its tariff. The final section of my testimony addresses CPA's proposed Rider RNA.

II. COST ALLOCATION

Q. BRIEFLY DESCRIBE THE COST-OF-SERVICE STUDIES SUBMITTED BY CPA IN THIS PROCEEDING.

A. CPA submitted average embedded ACOS Studies employing two different cost allocation methodologies. These cost allocation methods differ in the approach used to allocate distribution mains investment. The Company's ACOS Studies are sponsored by Mr. Chad Notestone (Columbia Statement No. 11).

Q. PLEASE IDENTIFY THE CUSTOMER RATE CLASSES INCLUDED IN THE COMPANY'S ACOS STUDIES.

A. The Company's ACOS Studies include seven rate classes:

- Residential Sales Service and Residential Distribution Service ("RSS/RDS");

- Low-Volume Small General Sales Service, Small Commercial Distribution Service, and Small General Distribution Service ("SGSS1/SCD1/SGDS1");
- High-Volume Small General Sales Service, Small Commercial Distribution Service, and Small General Distribution Service ("SGSS2/SCD2/SGDS2");
- Small Distribution Service and low-volume, Large General Sales Service ("SDS/LGSS");
- Large Distribution Service and high-volume, Large General Sales Service ("LDS/LGSS");
- Main Line Distribution Service ("MLDS"); and
- Flexible Rate Provisions and Negotiated Contract Service ("Flex").

Q. HOW DO THE ACOS STUDIES PREPARED BY CPA DIFFER?

A. In CPA's ACOS Studies, the Company first identified and directly assigned the actual inventory of distribution mains for the MLDS rate class. Next, the Company assigned the remaining mains investment to one of four categories, including the transmission category and three different distribution categories:

- Low Pressure Distribution;
- Regulated Non-Low Pressure Distribution ("Regulated Distribution"); and
- Remaining Regulated Pressure Distribution.

CPA then prepared ACOS Studies utilizing two different methods to allocate the mains investment assigned to each of the three distribution mains categories to rate class (excluding MLDS). Under both methods, transmission mains investment was allocated based on design day demands. Both methods were used to prepare ACOS Studies at present and proposed rates.

Under the first method, which I will refer to as the Customer-Demand method, the distribution mains investment assigned to each category is allocated to rate class partially based on the number of customers and partially based on the design day demands of the customers in each rate class that are served by each of the categories of

distribution mains. Under the second method, which I will refer to as the Peak & Average method, distribution mains investment is allocated 50 percent based on the design day demands and 50 percent based on annual, or average daily, demands of the customers in each rate class that are served by each of the categories of distribution mains.

Q. BEFORE CONTINUING, PLEASE EXPLAIN HOW CPA DEFINES EACH OF THE FOUR MAINS CATEGORIES.

A. CPA has defined each of the four mains categories as follows:

Transmission Mains – Mains that do not serve any single customer directly, but rather are designed to serve an entire geographic area. These are the lines that are generally of higher pressure and larger diameter, and transport the gas into CPA's distribution network. The cost of these mains is allocated to all customers, except the directly assigned MLDS customers.

Low Pressure Mains – Mains that have been identified as only servicing low-pressure customers. These mains are downstream of regulator stations and are, themselves, low-pressure. Due to their pressure, these mains do not serve any customer types other than low-pressure. The cost of these mains is only allocated to low-pressure customers.

Regulated Non-Low Pressure Mains – Mains that, due to their pressure, can serve all customer types except low-pressure customers. These mains can be either high-pressure, intermediate-pressure, or medium-pressure. The cost of these mains is allocated to all customers except for the customers served by the low-pressure mains and the directly assigned MLDS customers.

Remaining Regulated Pressure Mains – Mains that are not specifically assigned to one of the three groups identified above. Rather, they are mains that can either: (1) deliver gas to customers requiring high-pressure, intermediate-pressure, or medium-pressure service; or (2) deliver gas into downstream low-pressure systems and regulated non-low-pressure systems. The cost of these mains is allocated to all customers, except the directly assigned MLDS customers.

Q. DO YOU AGREE WITH CPA'S PROPOSED ALLOCATION OF TRANSMISSION MAINS INVESTMENT IN ITS ACOS STUDIES?

A. No, I do not. As subsequently explained, the distribution of the revenue increase authorized in this proceeding should be based on the OCA's Peak & Average ACOS Study. As such, transmission mains should be allocated utilizing the Peak & Average method for the same reasons distribution mains should be allocated utilizing the Peak & Average method. I address why distribution mains should be allocated utilizing the Peak & Average method later in my testimony. However, reflecting this change to the allocation of transmission mains in the OCA's Peak & Average ACOS Study does not have a material impact on the study results.[1] Therefore, I am not challenging CPA's proposed allocation of transmission mains in this proceeding.

Q. DO YOU AGREE WITH CPA'S PROPOSED SEPARATE ASSIGNMENT AND ALLOCATION OF DISTRIBUTION MAINS INVESTMENT INTO THREE SEPARATE CATEGORIES IN EACH OF ITS ACOS STUDIES?

A. No, I do not. CPA's proposed separate assignment and allocation of distribution mains fails to consider the net investment of each distribution mains category.

Q. WHAT ARE THE IMPLICATIONS OF FAILING TO CONSIDER THE NET INVESTMENT OF EACH DISTRIBUTION MAINS CATEGORY?

A. CPA uses the original cost of its distribution mains investment to develop its allocation factors for the three distribution mains categories. The allocation factors developed by CPA assume that all distribution mains of similar size and type (plastic or steel) cost the same per foot, are of the same vintage, and have the same depreciation expense per foot. This fails to recognize that low-pressure mains are generally older, are more fully depreciated, and that the net investment associated with the low-pressure system is likely less than that of the regulated-pressure system. This is important because rates in this proceeding will be set based on net investment, not original costs.

[1] A change to the allocation of transmission mains investment under the Peak & Average method results in a change of 0.1 percent to the allocation of total mains investment for the RSS/RDS class.

Q. DID YOU ATTEMPT TO DETERMINE THE NET INVESTMENT OF EACH DISTRIBUTION MAINS CATEGORY?

A. Yes. In OCA-1-002, CPA was requested to provide the net investment associated with each mains category. The Company indicated that the requested information is not readily available.

Q. WHAT EVIDENCE IS THERE THAT THE LOW-PRESSURE SYSTEM IS OLDER AND MORE FULLY DEPRECIATED THAN THE REGULATED-PRESSURE SYSTEM?

A. CPA mains are almost exclusively either plastic or steel (>99 percent). The average in-service date of the Company's plastic mains is 1999, and the average in-service date of the Company's steel mains is 1955. Approximately 53 percent of the low-pressure system consists of steel mains and 47 percent is plastic. For the regulated-pressure system, approximately 26 percent is steel, and 74 percent is plastic. This indicates that the low-pressure system is older and more fully depreciated than the regulated-pressure system.

Q. HOW DID CPA DETERMINE THE CUSTOMER COMPONENT OF DISTRIBUTION MAINS INVESTMENT UNDER THE CUSTOMER-DEMAND METHOD?

A. The Company utilized a minimum-sized unit approach to separately determine the customer component of mains investment for each of the three distribution mains categories. More specifically, CPA determined the installed unit cost per foot of distribution main by pipe size for each of the three distribution mains categories. Pipe sizes generally ranged in diameter from 2-inch pipe to 20-inch pipe. Next, using the average cost of 2-inch-sized pipe in each category, the Company multiplied the unit cost of the installed 2-inch-sized pipe by the total number of feet of pipe installed for

each category to determine the cost of the minimum system for that category. This was then compared to the total cost of that category of pipe on the CPA system to determine the percentage of that category of distribution mains investment that should be considered customer-related. Table 1 summarizes the approach used by the Company and the percentages of distribution mains investment, by category, that were determined to be customer-related and allocated to customer class based on the number of customers served by those distribution mains.

Table 1.
CPA Analysis of Customer Component of Distribution Mains

Category	Unit Cost of 2-inch-sized Pipe	Total Feet of Type of Pipe Installed	Cost of Minimum System	Total Cost of Type of Pipe Installed	Percent
(a)	(b)	(c)	(d) = (b) x (c)	(e)	(f) = (d)/(e)
Low-pressure	$14.61	10,366,747	$151,458,174	$306,142,722	49.5%
Regulated-pressure	18.36	24,483,364	449,514,569	764,080,756	58.8
Remaining Regulated-pressure	17.44	5,321,759	92,811,473	294,899,186	31.5
Total/Weighted Average:	**$17.27**	**40,171,870**	**$693,784,215**	**$1,365,122,663**	**50.8%**

To further explain CPA's approach, by way of example, the Company determined the cost to install 2-inch, low-pressure distribution mains to be $14.61 per foot. This cost was then multiplied by the total number of feet of low-pressure distribution mains installed (10,366,747 feet) to determine the minimum system component cost of low-pressure distribution mains to be $151,458,174. The Company compared the minimum system component of low-pressure distribution mains to the total cost of low-pressure distribution mains ($306,142,722) to claim that 49.5 percent of CPA's low-pressure distribution mains investment was customer-related. Overall, CPA has allocated 50.8 percent of distribution mains investment based on the number of customers.

Q. DO YOU AGREE WITH CPA'S CUSTOMER CLASSIFICATION OF DISTRIBUTION MAINS?

A. No. Allocating distribution mains investment on the basis of the number of customers in each class misallocates these costs of providing service. Distribution mains are not sized for the number of customers served from them, but for the loads placed upon them. This is made clear in the following example: Located along one city block are ten Residential customers with a coincident peak demand of one dekatherm ("Dth") each. The distribution main running down the street would have to be capable of delivering 10 Dth at peak. On another city block is only a small plastics factory that exhibits a maximum demand of 10 Dth. The main for that one customer must be sized to deliver 10 Dth when the plastics factory demand peaks. It is clear that the mains investment is driven by the loads placed upon it—not by the number of customers served from it. Finally, imagine that the plastics factory is torn down to make room for five large residences, each of which exhibits a demand at time of coincident peak of 2 Dth. Again, the main that is sized to deliver 10 Dth is adequate. The existence of one customer, five customers, or ten customers does not determine the amount of mains investment; rather, mains investment is a function of the loads to be served.

Viewed alternatively, what CPA's minimum system analysis purportedly indicates is that the Company incurs a certain amount of minimum costs *per foot* to install each category of distribution mains, regardless of main size. It is this cost that CPA contends is customer-related, and it is this cost that is allocated to customer classes based on the number of customers. This allocation procedure assigns the same quantity of each category of distribution pipe to each customer in each category, and fails to recognize differences in customer density. CPA's minimum system approach assigns 12 feet of low-pressure distribution mains to each customer served by that category of

pipe, 66 feet of regulated-pressure distribution mains to each customer served by that category of pipe, and less than 1 foot of remaining regulated-pressure mains to each customer served by that category of pipe. It is simply unreasonable to believe that each rate class served by CPA required the same length of main extension by distribution mains category in order to be connected to CPA's system. Larger-use customers are typically located farther apart than lower-use Residential customers and, as such, would generally require more main to be connected to the CPA system. Moreover, this disparity in the feet assigned to low-pressure customers, regulated-pressure customers, and remaining regulated-pressure customers further illustrates the unreasonableness of the Company's distribution mains assignment/customer component allocation approach.

Q. DO YOU HAVE SPECIFIC EVIDENCE TO INDICATE THAT LARGE-USE CUSTOMERS ARE TYPICALLY LOCATED FARTHER APART THAN LOWER-USE RESIDENTIAL CUSTOMERS?

A. Yes. Presented below in Table 2 are the number of feet by which CPA was required to extend its system to connect its ten largest non-MLDS customers as well as the design day and annual usage of those customers. Table 2 clearly demonstrates that CPA's allocation of distribution mains investment based on the number of customers, which assigns the same number of feet of distribution mains to each customer, does not result in a reasonable allocation of costs.

Table 2.
Service and Usage Characteristics of CPA's
Ten Largest Non-MLDS Customers

Customer	Design Day (Dth)	Throughput (Dth)	Distance (Ft)
1	10,119	2,831,244	3,106
2	12,080	2,002,712	7,618
3	0	1,099,939	1,479
4	4,085	1,020,792	[1]
5	1,228	801,205	1,178
6	2,502	605,046	4,726
7	1,468	531,350	1,571
8	2,158	525,916	1,294
9	1,633	452,894	1,308
10	2,222	443,556	750

[1] This customer is the only one served off the main. There is no meter upstream.

Q. DOES ANY RECOGNIZED AUTHORITY AGREE WITH YOUR CONCLUSION THAT IT IS IMPROPER TO ALLOCATE A PORTION OF THE MAINS DISTRIBUTION SYSTEM ON THE BASIS OF BEING CUSTOMER-RELATED?

A. Yes. Professor James Bonbright, at pages 491 and 492 of his *Principles of Public Utility Rates*, utilizing an example from the electric industry, states:

> But the really controversial aspect of customer-cost imputation arises because of the cost analyst's frequent practice of including, not just those costs that can be definitely earmarked as incurred for the benefit of specific customers but also a substantial fraction of the annual maintenance and capital costs of the secondary (low voltage) distribution system – a fraction equal to the estimated annual costs of a hypothetical system of minimum capacity. This minimum capacity is sometimes determined by the smallest sizes of conductors deemed adequate to maintain voltage and to keep from falling of their

> own weight. In any case, the annual costs of this phantom, minimum-sized distribution system are treated as customer costs and are deducted from the annual costs of the existing system, only the balance being included among those demand-related costs to be mentioned in the following section. Their inclusion among the customer costs is defended on the ground that, since they vary directly with the area of the distribution system (or else with the lengths of the distribution lines, depending on the type of distribution system), they therefore vary indirectly with the number of customers.
>
> What this last-named cost imputation overlooks, of course, is the **very weak correlation between the area (or the mileage) of a distribution system and the number of customers served by this system**. [Emphasis added.] For it makes no allowance for the density factor (customers per linear mile or per square mile). Indeed, if the Company's entire service area stays fixed, an increase in number of customers does not necessarily betoken any increase whatever in the costs of a minimum-sized distribution system.
>
> While, for the reason just suggested, the inclusion of the costs of a minimum-sized distribution system among the customer related costs seems to me clearly indefensible, its exclusion from the demand-related costs stands on much firmer ground.

Professor Bonbright clearly agrees that distribution costs, except for those costs that can be definitively earmarked to benefit specific customers, are not properly classified as customer costs.

Q. HAS THIS COMMISSION PREVIOUSLY ADDRESSED THE ALLOCATION OF DISTRIBUTION MAINS INVESTMENT BASED ON THE NUMBER OF CUSTOMERS?

A. Yes. In Philadelphia Gas Works, Docket No. R-00061931, 2007 Pa. PUC Lexis 46 (2007), the Commission found that mains allocations based on the number of customers was not acceptable.

Q. WOULD AN NGDC LIKE CPA ALWAYS INVEST IN DISTRIBUTION MAINS TO ATTACH A NEW CUSTOMER TO ITS SYSTEM?

A. No. At times, no incremental distribution mains investment is required to extend service to a new customer. In addition, at other times, CPA makes distribution mains investment for purposes other than to connect new customers. For example, CPA has, and expects to make, significant distribution mains investment to replace existing mains. In fact, since 2003, CPA has invested over $1.3 billion in distribution mains, which represents an increase of over 350 percent in its mains investment, but the number of customers served has only increased 8.5 percent.

Q. CAN THE DEMANDS OF RESIDENTIAL CUSTOMERS BE SERVED FROM CPA'S CUSTOMER COMPONENT OF DISTRIBUTION MAINS?

A. Yes. CPA's minimum system consists of 2-inch mains. It is common for many Residential customers to be provided with all of their gas service requirements from a 2-inch main.

Q. IN CPA'S CUSTOMER-DEMAND STUDIES, DID THE COMPANY PROPERLY CONSIDER CUSTOMER DEMANDS THAT CAN BE MET FROM 2-INCH MAINS WHEN IT DETERMINED ITS ALLOCATION OF THE DEMAND-RELATED PORTION OF DISTRIBUTION MAINS COSTS?

A. No. For example, all (or nearly all) Residential customers could be provided service through 2-inch mains. This being the case, there would be little to no unmet Residential gas service requirements that would be dependent upon demand-related mains costs.

However, Residential customers are still allocated nearly 60 percent of non-customer, demand-related distribution mains costs in the Company's Customer-Demand ACOS Studies. Clearly, under the Customer-Demand Study, Residential customers should be given credit for their demands that can be met with the so-called minimum system when it comes to determining who is responsible for the remaining portion of distribution mains classified as demand-related. In performing its Customer-Demand ACOS Studies, CPA has failed to consider any Residential demand crediting when determining Residential demands that are responsible for, or cause, costs classified as demand-related. Failing to provide a demand credit results in a double allocation of costs to Residential customers. This issue was addressed by George J. Sterzinger in his article, "The Customer Charge and Problems of Double Allocation of Costs" published in the July 2, 1981 edition of *Public Utilities Fortnightly*.

Q. WHAT DO YOU CONCLUDE REGARDING CPA'S ALLOCATION OF 50 PERCENT OF ITS DISTRIBUTION MAINS COST ON A CUSTOMER-RELATED BASIS IN ITS CUSTOMER-DEMAND ACOS STUDIES?

A. First, I conclude that it is incorrect to consider distribution mains as being customer-related. This is because mains investment is undertaken when annual gas consumption is high enough to warrant the investment, and mains are sized to meet expected demand levels, independent of the number of customers. In addition, CPA's allocation of 50 percent of its distribution mains cost on the basis of number of customers, combined with its failure to consider the demands that can be met with that investment when it allocates the remainder of its mains costs on a demand basis, is improper.

Since distribution mains exist to deliver annual requirements, and are sized to provide for peak requirements, it is proper to allocate distribution mains costs on the

basis of Peak & Average demands, consistent with established Commission precedent. Therefore, CPA's Customer-Demand method should be given zero weight by the Commission.

Q. WOULD IT BE REASONABLE TO ALLOCATE DISTRIBUTION MAINS INVESTMENT BASED SOLELY ON DESIGN DAY DEMANDS, AS CPA HAS DONE FOR A PORTION OF DISTRIBUTION MAINS INVESTMENT IN ITS CUSTOMER-DEMAND ACOS STUDIES?

A. No. The design day demands utilized in CPA's Customer-Demand ACOS Studies are based on a day with a 1-in-15 probability of occurrence. If an allocation of distribution mains costs on the basis of design peak day demands was in accordance with the principle of cost causality,[2] then the demand for natural gas under design peak day weather conditions would have to be the only cause for the existence of and customer utilization of CPA's distribution mains. Design peak day demands represent the maximum demands that are expected under the most severe weather assumptions used for planning purposes. While a portion of CPA's distribution mains costs are associated with, and should be allocated on, design peak demands, it is obviously wrong to profess that most distribution mains costs are caused by consumer demands on the coldest day experienced in CPA's service territory every 15 years or so. Quite simply, if CPA's customers had a demand for gas only on days that occur every 15 years, there would not be a CPA gas distribution system. The costs of delivered gas supplies on that one design peak day would be prohibitively high, and the cost of delivering gas through CPA's distribution system on that one day simply could not compete with alternative energy costs. For example, CPA's claimed annual cost of

[2] The principle of cost causality requires costs to be allocated to customers on the basis of the customers' relative use of the service units that gave rise to the costs in the first place.

providing service is approximately $675 million, and its projected design day demands excluding MLDS customers are 792,500 Dth. This implies a cost of $580 per Dth to meet design day demands. If a design day occurred only once every 15 years, this would imply a cost of $12,775 per Dth to meet demands on that single day.

Q. IF LOCAL GAS DISTRIBUTION SYSTEMS ARE NOT BUILT SOLELY TO MEET THE COLDEST DAY THAT MAY BE EXPERIENCED EVERY 15 YEARS, WHY DO NGDCs INCUR DISTRIBUTION MAINS INVESTMENT COSTS?

A. The basic reason why NGDCs like CPA invest in their distribution systems is to meet the annual demands for gas by end-use customers. This is the reason for the existence of the NGDC in the first place. Without sufficient annual gas usage by which to amortize the annual costs of providing service, there would be no gas distribution system. Additionally, as I will describe later, a portion of the total cost of distribution service is related to installing a system with enough throughput capacity to meet design day demands in excess of annual demands. Because distribution mains exist and are related to both annual demands and peak demands, both annual and peak demands must be recognized in the allocation of distribution mains costs if the allocation is to be in accordance with the principle of cost causality.

Q. DOES CPA'S MAINS EXTENSION POLICY CONSIDER DESIGN PEAK DEMANDS IN THE COMPANY'S DECISION-MAKING PROCESS?

A. No. With the general exception of main extensions up to 150 feet for new Residential customers, the net present value ("NPV") of base rate revenues is considered in CPA's mains extension decision-making process. The Company's base rate revenues are primarily collected on a volumetric basis. This policy is described in Section 8.2 of the Company's tariff. The exception for Residential main extensions of up to 150 feet is a

fairly recent change to the Company's main extension policy, which was adopted in the Settlement approved in Docket No. R-2015-2468056. Since its adoption, the exception has been applied to approximately 8,500 Residential customers. Prior to adopting this exception, the NPV of base rate revenues was considered in all Residential mains extension decisions.

Q. WHY IS IT PROPER TO ALLOCATE DISTRIBUTION MAINS INVESTMENT ON THE BASIS OF ANNUAL, AS WELL AS PEAK, DEMANDS?

A. The allocation of mains investment costs on the basis of both annual and peak demands is in accordance with the principle of allocating costs on the basis of cost causality. Natural gas is of little to no value to the customer if that gas cannot be delivered to the location of the gas-burning equipment. CPA's distribution system imparts locational value to the natural gas delivered across that system by allowing for the movement of that gas from its acquisition source to each customer's location. CPA's distribution system exists, and related costs are incurred, to deliver gas to its customers whenever, over the course of each year, its customers demand gas. In other words, CPA's system was built, and costs were incurred to deliver gas; both at the time of peak system demand and generally throughout the year. Because costs are incurred to deliver gas generally throughout the year, and additional costs are incurred to meet peak demands, CPA's distribution mains costs must be allocated on the basis of both annual and peak demands if those costs are to be allocated in accordance with the principle of cost causality.

Q. PLEASE EXPLAIN YOUR STATEMENT THAT COSTS ARE INCURRED TO DELIVER BOTH ANNUAL AND PEAK VOLUMES ACROSS CPA'S SYSTEM.

A. The customers included in CPA's ACOS Studies, excluding MLDS customers, are projected to move approximately 78.4 million Dth across CPA's system during the fully forecasted future test period. This equates to an average demand of about 215,000 Dth per day. CPA's design demand is about 792,500 Dth. CPA cannot meet its customers' annual gas demands with a system capability any smaller than 215,000 Dth. In other words, if there were no variance in the daily demands on CPA's system, the capacity of that system would have to be designed to accommodate the daily movement of 215,000 Dth just to meet the annual demands. To meet peak demands, CPA's system capacity must be 3.7 times greater than 215,000 Dth. Thus, some costs are related to the average deliveries each day on the CPA system, and some costs are related to the movement of gas when demands are above the average demand.

Rational investment decision analysis requires the consideration of annual volumes delivered across an NGDC's system. A gas distribution system would not exist if all demand-related costs were the responsibility of design peak demands. Customers would simply choose other energy alternatives. A viable gas market is dependent upon the ability to amortize delivery costs over a sufficient volume of service so as to result in a unit cost that can be recovered at a price at which gas can be sold and still compete with other energy sources. The association of costs with annual, as well as peak, demands, and the allocation of costs on the basis of both annual and peak demands for gas, are absolutely essential to the economic feasibility of a gas delivery system. To largely ignore annual demands and allocate total mains costs on peak demands would be inconsistent with the consideration of annual demands, which are absolutely essential to the economic justification of the very costs being allocated.

Q. HOW DO THE COSTS OF PROVIDING FOR THE MOVEMENT OF GAS TO MEET DESIGN DAY PEAK DEMANDS COMPARE TO THE COSTS

OF PROVIDING FOR THE MOVEMENT OF GAS TO MEET LESSER DEMANDS?

A. Many of the costs associated with the distribution delivery system do not depend upon pipe sizes. These costs would include planning, surveying, excavation, hauling, pipe bed preparation, unloading and stringing of pipe, municipal inspection, backfill, and pavement and sidewalk replacement. Since a portion of total costs does not vary with pipe size, or are fixed costs, total costs do not increase at a 1-to-1 ratio with increases in maximum demands. The additional costs associated with meeting elevated demands are largely related to the cost of the pipe itself.

Moreover, throughput capability increases not at a 1-to-1 ratio with the size of the pipe, but at a rate equal to the square of pipe diameter. Doubling the diameter of a pipe, for example, increases its capacity by four times the original capacity. Thus, the additional costs of providing additional capacity are lower than the average costs of providing capacity. This means that the costs associated with providing capacity for the movement of average demands are greater on a unit basis than the costs associated with providing capacity for additional demands. CPA's distribution system exists to deliver annual system requirements. There are costs that are uniquely associated with meeting peak demands, and as such, peak demands should bear some cost responsibility.

Q. ARE GAS FLOWS DURING THE DESIGN PEAK SO IMPORTANT THAT MOST OF CPA'S TOTAL DISTRIBUTION SYSTEM COSTS ARE DIRECTLY RELATED TO, AND CAUSED BY, PEAK DAY DEMAND REQUIREMENTS?

A. No. Peak demands are not the major cause of CPA's demand-related mains cost, and it would be wrong to allocate distribution mains-related costs largely on the basis of

peak demands. Only the marginal costs incurred to meet peak demands above other demands are caused by, or directly related to, peak requirements. CPA's gas delivery system simply would not be viable and would not exist if the only demand for gas was the demand associated with extreme weather conditions. CPA's delivery system exists because the total annual demand for gas is sufficient to warrant its existence. Because CPA's system exists to deliver annual gas requirements, but some additional costs are related to the delivery of gas during periods of elevated demand, it is appropriate to allocate the Company's distribution mains costs on both annual and peak demands. The allocation of distribution system-related costs only on the basis of peak demands misallocates substantial costs.

Q. TO WHAT EXTENT DO THE COSTS OF MEETING PEAK GAS FLOW REQUIREMENTS EXCEED THE COSTS OF MEETING AVERAGE GAS FLOW REQUIREMENTS?

A. As noted, CPA's design peak day peak demand is about 3.7 times its average demand. A pipe's cross-sectional area, and correspondingly its capacity, varies with the square of its radius. Therefore, doubling the size of a pipe's radius (or diameter) increases the capacity of the pipe fourfold. For example, doubling the diameter of a 2-inch pipe to four inches increases the capacity by four times the capacity of the 2-inch pipe. Increasing the diameter of a 2-inch pipe to eight inches increases the capacity by 16 times. The costs of meeting increased flow requirements that are caused by, or associated with, elevated demands are answered by the relationship of the change in total capacity costs to the change in capacity.

I explained earlier that since many distribution delivery system costs do not vary with pipe size, the increased costs associated with meeting increased capacity requirements are expected to be small. Indeed, it is largely these economies of scale

that lead to falling average costs of service and the provision of gas distribution service more economically by one monopoly provider, like CPA, rather than by many competing providers.

Q. DO YOU HAVE CPA-SPECIFIC DATA IDENTIFYING THE COSTS ASSOCIATED WITH MEETING INCREASED CAPACITY REQUIREMENTS?

A. Yes. The most common category of distribution mains installed by CPA is regulated-pressure mains, and the most common type of this category of distribution mains is plastic. In the minimum system analysis prepared by CPA, provided in the response to OCA-I-001, the Company determined the per-foot cost to install plastic regulated-pressure distribution mains. Those costs are reflected in Table 3 for those pipe sizes with a total investment in excess of $20 million.

Table 3.
CPA Cost of Installed Regulated-Pressure Mains

Diameter (inches)	Average Cost (per foot)
2	$22.08
4	59.05
6	88.62
8	136.18

As shown on Table 3, the average cost of installing a 2-inch main was approximately $22 per foot, while the average cost of installing a 4-inch main was approximately $59 per foot. Thus, for a fourfold increase in capacity, CPA's total average costs increased by nearly 170 percent (($59 - $22) / $22). Based on this example, a doubling of the pipe size (and hence a quadrupling of capacity) increased capacity costs by nearly 170 percent, indicating that increased demands above average

demands can be accommodated at increased distribution mains costs that are approximately 42 percent (170 percent / fourfold increase in capacity) of the costs of meeting average demands:

Cost per Foot				Capacity	Cost of
2-inch	4-inch	Increase	Percent	Increase	Peak
(a)	(b)	(c) = (b)-(a)	(d) ~ (c)/(a)	(e)	(f) = (d)/(e)
$22.00	$59.00	$37.00	170%	4	42%

Table 3 also indicates that the average cost of installing an 8-inch main was approximately $136 per foot. Thus, for a 16-fold increase in capacity, CPA's total average costs increased by more than 520 percent (($136 - $22) / $22) over the cost of a 2-inch pipe. Based on this example, a quadrupling of pipe size (and hence a 16-fold increase in capacity) increased capacity costs by about 520 percent, indicating that increased demands above average demands can be accommodated at an increased distribution mains costs that are 32 percent (520 percent / 16-fold increase in capacity) of the costs of meeting average demands:

Cost per Foot				Capacity	Cost of
2-inch	8-inch	Increase	Percent	Increase	Peak
(a)	(b)	(c) = (b)-(a)	(d) ~ (c)/(a)	(e)	(f) = (d)/(e)
$22.00	$136.00	$114.00	520%	16	32%

Given these two CPA-specific examples above, less than half of distribution mains costs are associated with meeting elevated peak demand requirements and could be allocated based on peak demands, and the remainder is related to customers' annual demands for natural gas and could be allocated on average demands.

Q. HOW CAN DISTRIBUTION MAINS INVESTMENT COSTS BE PROPERLY ALLOCATED?

A. The additional costs of providing capacity in order to meet peak demands, as opposed to lesser demands, should be allocated on a peak demand basis. As I just demonstrated, less than half of CPA's distribution mains costs are associated with meeting increased demands; hence, a portion of mains costs should be allocated on the basis of peak demands. I recommend that 50 percent of CPA's distribution mains system costs, instead of a lesser amount, be allocated on the basis of peak demands. The remaining 50 percent of CPA's distribution mains costs, being related to, or caused by, CPA's annual gas requirements, should be allocated on annual, or average, demands.

Q. HAS THIS COMMISSION PREVIOUSLY APPROVED THE USE OF THE PEAK & AVERAGE METHOD?

A. Yes. The Commission has previously accepted the fact that distribution mains are built on the basis of year-round demands as well as peak demands. In NFGD's 1994 base rate proceeding, the Commission accepted the Peak & Average methodology, stating, "The Peak & Average method that allocates mains equally is a sound and reasonable method of cost allocation and should remain intact." *Pa. P.U.C. v. National Fuel Gas Distribution Co.*, 83 Pa. PUC 262, 360 (1994). See also *Pa. P.U.C. v. National Fuel Gas Distribution Co.*, 73 Pa. PUC 552 (1990); *Pa. P.U.C. v. Equitable Gas Co.*, 73 Pa. PUC 301 (1990); and *Pa. P.U.C. v. CPA Gas Co.*, 69 Pa. PUC 138 (1989).

Q. HAVE OTHER COMMISSIONS ACCEPTED THE USE OF THE PEAK & AVERAGE METHOD?

A. Yes. The Indiana Utility Regulatory Commission ("IURC") has strongly endorsed the use of the Peak & Average methodology. See *In re Citizens Gas & Coke Utility*, IURC Cause No. 42767 (Oct. 19, 2006). The IURC found that the Peak & Average method was the "equitable and realistic" method for allocating distribution mains costs, and provided the following analysis:

Based upon the record evidence, this Commission concludes that the OUCC's cost-of-service study is most reflective of cost causation and possesses a high degree of objectivity upon which the Commission may place reliance in establishing the rates and charges in this proceeding.

While we do not doubt that distribution mains must be constructed with peak demand in mind, distribution mains do not only serve customers on peak demand days. Therefore, a measure of the costs of distribution mains must be allocated to customers based on their usage that takes place on non-peak days. For example, a customer that does not take service at all on the peak demand day-and therefore contributes nothing to peak demand requirements of distribution mains-but receives service through distribution mains at other times should be responsible for some portion of distribution main costs.

The OUCC's approach is much more equitable and realistic. Rather than allocating distribution main costs exclusively based on either peak demand day or average annual consumption, the OUCC used a compromise approach that allocated these costs based on both. Under the OUCC's cost-of-service study, 80% of distribution main costs are allocated based on average demand. (Public's Ex. No. 6 at 13.) In this way, the OUCC's approach allocates part of distribution main costs to customers who receive service through distribution mains throughout the year but who may not receive much or any service on the peak demand day.

For the reasons set forth above, we find the OUCC's cost-of-service study most accurately reflects the manner in which distribution main costs are actually incurred. See, In Re Citizens Gas & Coke Utility, IURC Cause No. 39066, at 31 (Nov. 1, 1999). We therefore adopt the OUCC's cost-of-service study to implement the rates increase approved in this Cause.

[*In re Citizens Gas & Coke Utility*, IURC Cause No. 42767, at 74-75 (Oct. 19, 2006)]

The Illinois Commerce Commission ("ICC") has accepted the Peak & Average method for allocating transmission and distribution costs in the natural gas industry. The ICC explained the reasoning behind utilizing a Peak & Average methodology in their decision as follows:

> Generally, [Central Illinois Public Service Company or CIPS] and [Union Electric Company or UE] gas transmission and distribution facilities exist because there is a daily need for such facilities. Regardless of when CIPS and UE experience their respective peak and the level of the peak, customers depend on the continued operation of the Ameren gas transmission and distribution systems to meet their daily needs. On the day that the peak does occur. Ameren's own Mr. Carls testifies that CIPS' and UE's respective systems are built to accommodate the system peak without regard to each class' peak. In light of the nature in which the transmission and distribution systems are used and because of the relatively declining cost of increasing capacity, peak demand is not the appropriate emphasis in allocating demand costs…As the Commission concluded in Docket 94-0040, a utility can not justify its transmission and distribution investment on demands for a single day. The allocation method that properly weights peak demand is the [Average & Peak or A&P] method, the same method that the Commission adopted in CIPS' and UE's last gas rate cases. The A&P method properly emphasizes the average component to reflect the role of year-round demands in shaping transmission and distribution investments.
>
> [*Central Ill. Pub. Service Co. Proposed General Increase in Natural Gas Rates, et al.*, 2003 Ill. PUC Lexis 824, 231-232 (2003)]

Q. DOES THE COMPANY'S ACOS PEAK & AVERAGE STUDY REFLECT A REASONABLE ALLOCATION OF DISTRIBUTION MAINS INVESTMENT?

A. No, it does not. As indicated previously, in CPA's Peak & Average ACOS Study, distribution mains investment is separately assigned to one of three categories, and each category is separately allocated to each rate class. As previously explained, this assignment is unreasonable. In addition, the Company has not appropriately assigned the costs associated with the major account representatives that manage large Industrial and Commercial customer accounts.

Q. UNDER WHAT ACCOUNTS ARE THE COSTS ASSOCIATED WITH MAJOR ACCOUNT REPRESENTATIVES INCLUDED IN THE COMPANY'S ACOS STUDY AND HOW WERE THEY ALLOCATED TO THE VARIOUS CUSTOMER CLASSES?

A. The costs associated with major account representatives are included in FERC Account 910 – Miscellaneous Customer Service & Information Expenses, and FERC Account 912 – Demonstration and Selling Expenses. These costs were allocated to the various customer classes based on the average number of customers. As a result, more than 90 percent of these costs were assigned to CPA's Residential class. Based on the response to OCA-I-021, the Company has four major account representatives with total annual loaded labor cost of $491,560.

Q. WHY IS THE COMPANY'S ALLOCATION OF THE COSTS ASSOCIATED WITH MAJOR ACCOUNT REPRESENTATIVES NOT APPROPRIATE?

A. As the name implies, major account representatives serve large customers, not small Residential customers. Therefore, an allocation of these costs based on the number of customers is unreasonable.

Q. HOW DO YOU RECOMMEND THAT THE COSTS ASSOCIATED WITH MAJOR ACCOUNT REPRESENTATIVES BE ALLOCATED?

A. I recommend that major account representatives' costs be allocated to the Company's larger customer classes 50 percent based on the number of customers and 50 percent based on annual volumes.

Q. WHAT ARE THE RESULTS OF THE COMPANY'S PEAK & AVERAGE ACOS STUDY?

A. Table 4 shows the results of CPA's Peak & Average Study at present rates.

Table 4.
Class Rates of Return CPA Peak & Average ACOS Study
Results at Present Rates

Class	Rate of Return	Index
RSS/RDS	6.251%	1.29
SGSS1/SCD1/SGDS1	4.956	1.02
SGSS2/SCD2/SGDS2	5.793	1.19
SDS/LGSS	4.558	0.94
LDS/LGSS	0.404	0.08
MLDS	81.361	16.75
FLEX	(4.273)	(0.88)
Overall:	**4.857%**	**1.00**

Q. HAVE YOU PREPARED A PEAK & AVERAGE ACOS STUDY THAT ELIMINATES THE SEPARATE ASSIGNMENT OF DISTRIBUTION MAINS TO CATEGORIES AND APPROPRIATELY ASSIGNS THE COSTS ASSOCIATED WITH MAJOR ACCOUNT REPRESENTATIVES?

A. Yes. Schedule JDM-1 present the results of the OCA's Peak & Average ACOS Study that eliminates the separate assignment of distribution mains to categories and assigns the costs associated with major account representatives to the appropriate classes. This study provides a reasonable indication of the cost of service for each rate class. Table 5 provides a summary of the OCA's Peak & Average Study at present rates.

Table 5.
Class Rates of Return OCA Peak & Average ACOS
Study Results at Present Rates

Class	Rate of Return	Index
RSS/RDS	6.506%	1.34
SGSS1/SCD1/SGDS1	4.760	0.98
SGSS2/SCD2/SGDS2	5.408	1.11
SDS/LGSS	4.107	0.85
LDS/LGSS	0.228	0.05
MLDS	79.321	16.33
FLEX	(4.406)	(0.91)
Overall:	**4.857%**	**1.00**

Q. CPA PRESENTED ACOS STUDIES USING TWO DIFFERENT ALLOCATION METHODS FOR MAINS INVESTMENT. ARE YOU PRESENTING AN ACOS STUDY IN THIS PROCEEDING USING AN ALLOCATION METHOD FOR DISTRIBUTION MAINS INVESTMENT OTHER THAN THE PEAK & AVERAGE METHOD?

A. Yes. In addition to presenting an ACOS study using the Peak & Average method at present rates, I am presenting an ACOS study allocating mains investment using the Proportional Responsibility ("PR") method. I am presenting this additional study to support the reasonableness of the results of the ACOS study prepared using the Peak & Average method. I would note that the ACOS study presented by Columbia Gas of

Massachusetts ("CMA"), CPA's affiliate at the time, in its most recent base rate proceeding before the Massachusetts Department of Public Utilities ("D.P.U."), utilized the PR method. (D.P.U. 18-45).

Q. DID CMA PRESENT ACOS STUDIES THAT WERE PREPARED USING A METHOD OTHER THAN THE PR METHOD IN D.P.U. 18-45?

A. No, it did not.

Q. PLEASE DESCRIBE THE PR METHOD.

A. Under the PR method, distribution mains investment is allocated to customer class on the basis of PR allocators. The PR method recognizes that capacity on the distribution system has some value each month throughout the year, although that value is diminished in the summer months when demands are much lower. The PR method was developed by Gary H. Grainer of the Wisconsin Public Service Commission.

Q. PLEASE EXPLAIN HOW THE PR ALLOCATORS ARE DEVELOPED.

A. Schedule JDM-2 presents a calculation of PR allocators for the assignment of distribution mains costs to CPA's rate classes using the method presented by CMA in D.P.U. 18-45. First, shown on Schedule JDM-2, distribution volumes by month and by class are adjusted by the applicable fuel retention charge to develop monthly sendout volumes by class and for the Company in total. Total sendout volumes by month are then ranked from highest to lowest (Column 2), and a percentage of each month's sendout compared to the peak month's sendout is calculated (Column 3).

For example, as shown on Schedule JDM-2 (Column 2), February is CPA's peak month, and February sendout is 100.0000 percent of peak month sendout (Column 3), while May sendout is 35.6416 percent of peak month sendout (Column 3). In the next step (Column 4), the next lowest rank month is identified, and the percent of peak for the next ranked month (Column 5) is subtracted from each month's percent of peak

(Column 3) to determine the incremental increase in each monthly percentage peak, which is shown in Column 6. For example, from the percent of peak for May, which is the seventh-highest ranked month, the percent of peak for October, which is the eighth-highest ranked month, is subtracted. The difference between the percent of peak for the current month and the next ranked month is then divided by the rank of the current month.

Using May as an example again, the difference between May's percent of peak and the next highest-ranked month's 8.2964 percent of peak (Column 6) is divided by May's percent of peak ranking of 7 to arrive at an individual monthly weighting (Column 7). Cumulative total Company weightings for each month are then determined (Column 9). These weights are determined by starting at the lowest individual weighted month, which is August at 1.7558 percent, and adding to the second-lowest individual weighted month the previous month's weighted average, which is July. Therefore, under the PR method, sendout in July would be weighted based on the individual weightings of August and July. Eventually, February, the highest-ranked month's weighting, would be based on the cumulative weighting of all months. Thus, under the PR method, each higher-ranked month is assigned a successively higher percentage allocation. The cumulative weighting for each month is then multiplied by each class' share of monthly sendout to develop individual class PR allocations (Column 10).

Q. HAVE YOU PREPARED AN ACOS STUDY USING THE PR METHOD?

A. Yes. Schedule JDM-3 presents the results of the PR study at present rates. Table 6 presents a summary of the PR study at present rates.

Table 6.
CPA Class Rates of Return Proportional Responsibility
ACOS Study at Present Rates

Class	Rate of Return	Index
RSS/RDS	7.000%	1.44
SGSS1/SCD1/SGDS1	5.516	1.14
SGSS2/SCD2/SGDS2	5.804	1.19
SDS/LGSS	3.446	0.71
LDS/LGSS	(0.803)	(0.17)
MLDS	79.321	16.33
FLEX	(4.712)	(0.97)
Overall:	**4.857%**	**1.00**

A comparison of Table 5 and Table 6 reveals that the Peak & Average and PR methods produce comparable cost-of-service results.

III. CLASS REVENUE REQUIREMENTS

Q. PLEASE DESCRIBE HOW CPA IS PROPOSING TO DISTRIBUTE ITS REQUESTED REVENUE INCREASE AMONG ITS CUSTOMER CLASSES IN THIS PROCEEDING.

A. CPA generally sought to allocate the revenue increase toward the cost of service indicated by the results of its Average ACOS Study. The Company's proposed base rate revenue distribution is presented in Table 7.

Table 7.
CPA Proposed Revenue Distribution

Class	Present Rates	Proposed Rates	Increase	Percent
RSS/RDS	$292,185,976	$361,423,632	$69,237,656	23.7%
SGSS1/SCD1/SGDS1	33,641,932	42,257,415	8,615,483	25.6
SGSS2/SCD2/SGDS2	38,608,596	48,498,016	9,889,420	25.6
SDS/LGSS	21,768,524	27,490,911	5,722,387	26.3
LDS/LGSS	15,319,132	19,486,797	4,167,665	0.0
MLDS	550,482	550,482	0	0.3
FLEX	4,877,848	4,891,965	14,117	24.0
Total:	**$406,952,490**	**$504,599,218**	**$97,646,728**	**1.00%**

Q. IS CPA'S PROPOSED REVENUE ALLOCATION REASONABLE?

A. No. CPA's revenue allocation is guided by the results of its Average Study. As explained in the prior section of my testimony, this study violates the principle of allocating costs on the basis of cost causality, and does not reasonably reflect the costs of providing service to the various customer classes. The OCA's Peak & Average Study should be used as a guide for the allocation of any increase authorized by the Commission in this proceeding.

Q. WHAT ARE SOME OF THE PRINCIPLES OF A SOUND REVENUE ALLOCATION?

A. A sound revenue allocation should:

- Utilize class cost-of-service study results as a guide;
- Provide stability and predictability of the rates themselves, with a minimum of unexpected changes that are seriously adverse to ratepayers or the utility (gradualism);
- Yield the total revenue requirement;
- Provide for simplicity, certainty, convenience of payment, understandability, public acceptability, and feasibility of application; and

- Reflect fairness in the apportionment of the total cost of service among the various customer classes.[3]

Q. WHAT DO YOU RECOMMEND WITH RESPECT TO THE ALLOCATION OF CPA'S PROPOSED REVENUE INCREASE?

A. Table 8 summarizes my recommended revenue distribution at proposed rates for the Company's claimed revenue deficiency and is based on the OCA's Peak & Average ACOS study. Also identified is the relative rate of return at proposed rates under my revenue distribution.

Table 8.
OCA Proposed Revenue Distribution

Class	Present Rates	Proposed Rates	Increase	Percent	Index
RSS/RDS	$292,185,976	$354,799,715	$62,613,739	21.4%	1.24
SGSS1/SCD1/SGDS1	33,641,932	43,732,252	10,090,320	30.0	1.05
SGSS2/SCD2/SGDS2	38,608,596	50,188,581	11,579,985	30.0	1.10
SDS/LGSS	21,768,524	2,960,3438	7,834,914	36.0	0.98
LDS/LGSS	15,319,132	20,832,785	5,513,653	36.0	0.33
MLDS	550,482	550,482	0	0.3	9.94
FLEX	4,877,848	4,891,965	14,117	0.3	(0.55)
Total:	**$406,952,490**	**$504,599,218**	**$97,646,728**	**24.0%**	**1.00**

Q. HOW DID YOU DEVELOP YOUR PROPOSED REVENUE DISTRIBUTION?

A. First, I maintained the Company's proposal for the distribution of the revenue increase to the MLDS and flex classes. As indicated in Table 5, the indicated rates of return at present rates for the SDS/LGSS and LDS/LGSS classes were less than the system average return. I assigned a 1.5 times system average increase to each class. For the SGSS1/SCDS1/SGDS1, and SGSS2/SCD2/SGDS2 classes, I assigned an increase which was 1.25 times the system average increase. This recognizes that at present rates

[3] *Principles of Public Utility Rates*, Second Edition, James C. Bonbright, Albert L. Danielsen, David R. Kamerschen; Public Utility Reports, Inc., 1988, pages 383-384.

the return for each of these classes is close to the system average return, and provides a contribution to offset the revenue deficiency of the SDS/LGSS and LDS/LGSS classes whose increases were capped at 1.5 times the system average increase. I assigned the remainder of CPA's requested increase to the RSS/RDS class.

Q. WHAT DO YOU RECOMMEND WITH RESPECT TO THE SCALE-BACK OF YOUR PROPOSED REVENUE DISTRIBUTION TO REFLECT THE INCREASE ACTUALLY AUTHORIZED BY THE COMMISSION IN THIS PROCEEDING?

A. In the event that CPA's authorized increase is less than its requested increase, I recommend a proportionate scale-back of the increase for each rate class.

IV. RATE DESIGN

Q. PLEASE DESCRIBE CPA'S CURRENT AND PROPOSED RESIDENTIAL RATES.

A. CPA's current Residential sales and transportation customer distribution rates consist of a $16.75-per-month customer charge and a single delivery charge of $6.0763 for each Dth of gas delivered. CPA's proposed Residential rate would consist of a $23.00-per-month customer charge and a $7.3323-per-Dth delivery charge. CPA justifies its proposed Residential customer charge as being within a calculated customer cost range of $23.05 to $54.16 and in proportion to the overall percentage increase proposed for the Residential rate class. The $23.05 charge is based on CPA's Customer-Demand Study exclusive of a customer component of distribution mains, while the $54.16 charge is based on CPA's Customer-Demand Study inclusive of a customer component of distribution mains.

Q. SHOULD CPA'S PROPOSED RESIDENTIAL CUSTOMER CHARGE BE APPROVED?

A. No, for several reasons. First, CPA's Residential customer charge proposal is out of line with the Residential customer charges of other NGDCs in the Commonwealth. Second, CPA's proposed Residential customer charge violates the principle of gradualism. Third, as discussed in the testimony of OCA Witness Colton, CPA's proposal will have a disproportionate impact on low-income customers. Finally, a high fixed monthly customer charge is inconsistent with the Commission's general goal of fostering energy conservation.

Q. HOW DOES CPA'S RESIDENTIAL CUSTOMER CHARGE PROPOSAL COMPARE WITH THE MONTHLY RESIDENTIAL CUSTOMER CHARGES OF OTHER NGDCs IN THE COMMONWEALTH?

A. Table 9 provides a comparison of CPA's Residential customer charge proposal with the customer charges of other Pennsylvania NGDCs. As shown there, CPA's current charge is already the highest in the Commonwealth, and if adopted, CPA's proposed monthly Residential customer charge would be significantly higher than that of any other NGDC in the Commonwealth.

Table 9.
Comparison of Residential Customer Charges for Pennsylvania NGDCs

Columbia Gas of Pennsylvania – Proposed	**$23.00**
Columbia Gas of Pennsylvania – Current	**16.75**
Peoples Gas	15.75
UGI Gas	14.60
Peoples Natural Gas	14.50
Philadelphia Gas Works	13.75
National Fuel Gas Company	12.00
PECO Energy Company	11.75

Q. PLEASE EXPLAIN YOUR COMMENT THAT CPA'S RESIDENTIAL CUSTOMER CHARGE PROPOSAL VIOLATES THE PRINCIPLE OF GRADUALISM.

A. Gradualism is an important factor in developing a sound rate design and refers to stability and predictability in rates with a minimum of unexpected changes seriously adverse to ratepayers, and with a sense of historical continuity. In short, gradualism refers to the avoidance of rate shock. CPA's Residential customer charge proposal represents an increase of nearly 40 percent in that rate. Such a significant increase should be avoided.

Q. WHY IS A HIGH FIXED MONTHLY CUSTOMER CHARGE INCONSISTENT WITH THE COMMISSION'S GENERAL GOAL OF FOSTERING ENERGY CONSERVATION?

A. The more revenue collected through the fixed monthly charge, the lower the volumetric charge. The higher the volumetric charge, the greater the incentive to lower usage.

Q. WHAT IS YOUR RECOMMENDATION WITH RESPECT TO CPA'S MONTHLY RESIDENTIAL CUSTOMER CHARGE?

A. CPA's monthly Residential customer charge is already the highest in the Commonwealth. Therefore, I recommend that the existing $16.75 monthly charge be maintained.

V. WEATHER NORMALIZATION ADJUSTMENT

Q. BRIEFLY DESCRIBE CPA'S WEATHER NORMALIZATION ADJUSTMENT PILOT.

A. The WNA adjusts a Residential customer's monthly charges to account for differences in usage attributable to variations between actual recorded heating degree days ("HDDs") and normal HDDs during the months of October through May. The WNA provides for the collection of additional revenues from Residential customers when actual HDDs experienced are less than normal HDDs, and provides a revenue credit when actual HDDs experienced are greater than normal HDDs. The formula used to develop the WNA applied to each bill is presented on pages 16-17 of Columbia Statement No. 3.

Q. IS CPA PROPOSING ANY MODIFICATIONS TO THE EXISTING WNA?

A. Yes. The current WNA includes a 3 percent deadband. That is, the WNA is not assessed if weather is less than 3 percent warmer or colder than normal. The Company is proposing to eliminate the 3 percent deadband.

Q. SHOULD THE 3 PERCENT DEADBAND BE ELIMINATED?

A. No, the 3 percent deadband should not be eliminated. It is unreasonable to assume that weather and natural gas usage is abnormal if a particular day is only a few HDDs warmer or colder than normal. If the deadband is eliminated, the WNA would be applied if actual weather was only one HDD colder or warmer than normal. An HDD is determined by taking the average of daily high and low temperatures, and daily usage

can vary due to factors other than temperature. Therefore, the 3 percent deadband should be maintained to help ensure that the assessment of the WNA is limited to changes in usage attributable to variations in temperature.

VI. REVENUE NORMALIZATION ADJUSTMENT

Q. BRIEFLY DESCRIBE RIDER RNA PROPOSED BY CPA.

A. Under Rider RNA, a benchmark revenue per non-customer assistance program ("CAP") Residential customer ("Benchmark Distribution Revenue per Bill" or "BDRB") would be established through a base rate case proceeding.[4] Through Rider RNA, the Company would collect or refund any variation in non-CAP Residential revenues that differed from the BDRB not due to differences between actual and normal weather. Rider RNA would be calculated and assessed on a total Residential class revenue basis rather than an individual customer revenue basis.

Q. SHOULD RIDER RNA BE APPROVED BY THE COMMISSION?

A. No. In Docket No. M-2015-2518883, the Commission initiated a proceeding to examine, among other things, alternative ratemaking mechanisms. On May 23, 2018, the Commission issued for comment a Proposed Policy Statement in Docket No. 2015-2518883 that included the addition of a new section to the Pennsylvania Public Utility Code at Section 69.3303 that provided illustrations of possible distribution ratemaking and rate design options for electric and natural gas distribution companies.

On June 28, 2018, Governor Tom Wolf signed into law Act 58 of 2018, that amended Chapter 13 of the Pennsylvania Public Utility Code, 66 Pa. C. S. §§ 1301 *et seq*., (relating to rates and distribution systems). Specifically, Act 58 added Section 1330, 66 Pa. C. S. § 1330 (relating to alternative ratemaking for utilities), that permits

[4] The RNA would not apply to Residential customer assistance program customers.

the Commission to approve an application by a utility to establish alternative rates and rate mechanisms. The Commission initiated an Act 58 implementation proceeding at Docket No. M-2018-3003269 on August 23, 2018. Rider RNA is an alternative rate mechanism provided for under Act 58. More specifically, it is a revenue decoupling mechanism.

In an Order entered July 18, 2019, in Docket No. M-2015-2518883, the Commission set forth its Statement of Policy with respect to alternative ratemaking methodologies. In its Statement of Policy, the Commission identified 14 factors it would consider in evaluating an alternative ratemaking mechanism. The Statement of Policy required a utility proposing an alternative ratemaking mechanism to explain how each of these 14 factors impact the rates of each customer class. CPA has failed to address the 14 factors included in the Statement of Policy on alternative ratemaking mechanisms and, therefore, Rider RNA should not be approved.

Q. IS THERE ANOTHER REASON THAT RIDER RNA SHOULD NOT BE APPROVED AT THIS TIME?

A. Yes. The COVID-19 pandemic is another reason Rider RNA should not be approved. There is a great deal of uncertainty concerning the impact of the pandemic on customers and unintended consequences could result. For example, the normal usage of Residential customers could change significantly as a result of the pandemic and customers could be assessed charges for these changes in usage. Alternative ratemaking mechanisms such as Rider RNA need to be accompanied by sufficient consumer protections.

Q. WHAT ARE YOUR CONCERNS WITH RIDER RNA?

A. My concerns with Rider RNA are as follows:

- The proposed Rider RNA could increase earnings beyond those that the Company would ordinarily be entitled to.

- The proposed Rider RNA unreasonably applies to customers whose usage is relatively constant over time.
- The proposed Rider RNA embodies a take-or-pay pricing policy.
- The proposed Rider RNA inappropriately adjusts rates without considering other changes in total revenues and costs.
- CPA has not demonstrated that its current system of rates and charges result in inadequate revenue stability.

Q. PLEASE EXPLAIN HOW THE RNA COULD INCREASE EARNINGS BEYOND THOSE TO WHICH THE COMPANY WOULD ORDINARILY BE ENTITLED.

A. When CPA adds a new Residential customer, margins from that customer are set under Rider RNA at the BDRB. A new customer is likely to have purchased a more energy-efficient gas appliance than an average existing customer, and would have lower usage than an average customer, all else being equal. This would increase CPA's earnings beyond what they would have been without Rider RNA because CPA's margins would be based on average Residential customer margins.

Q. DOES THE PROPOSED RIDER RNA UNREASONABLY APPLY TO CUSTOMERS WHOSE USAGE IS RELATIVELY CONSTANT OVER TIME?

A. Yes. Rider RNA would collect or refund any variation in total Residential revenues that differed from the BDRB and that are not due to differences between actual and normal weather. Therefore, Rider RNA would unreasonably apply to those Residential customers whose usage is relatively constant over time.

Q. DOES THE PROPOSED RIDER RNA EMBODY A TAKE-OR-PAY PRICING POLICY?

A. Yes. In the marketplace, consumers pay for the goods and services they receive. Under the proposed Rider RNA, consumers would pay for distribution service they do and do not receive. No matter how much distribution service is actually purchased by CPA's Residential customers, ultimately, under the proposed Rider RNA, those customers would pay for the presumed level of service whether they take, delivery or not. This conversion of a volumetric rate into rates that yield a given revenue, regardless of the amount of service purchased, converts CPA's volumetric rate into a take-or-pay billing feature.

Q. PLEASE EXPLAIN HOW RIDER RNA COULD RESULT IN INAPPROPRIATE RATE ADJUSTMENTS.

A. The proposed Rider RNA operates to change rates, automatically, between rate cases, simply as a function of Residential distribution revenues being different from benchmark revenues due to factors other than weather. There is no review of CPA's costs, or the volumes and attendant revenues from other customer classes that are not included under Rider RNA. For example, if Residential usage per customer were to fall over time, while SGSS1/SCD1/SGDS1 deliveries increased, CPA's Residential rates would be increased under Rider RNA with no recognition of the increased SGSS1/SCD1/SGDS1 distribution service revenues. Moreover, if Residential customer distribution service requirements decreased over time, Residential allocated costs should also decrease, thus reducing the Residential revenue requirement. There is no provision in the proposed Rider RNA to adjust Residential class revenue requirements as they may be affected by the very events that trigger automatic price changes under Rider RNA. The proposed Rider RNA can operate to delay base rate cases, leading to rate increases between base rate cases that may not be supported by a

broader review of CPA's revenue/cost relationship, and leading to Residential class revenue relationships that no longer reflect any basis in allocated costs of service.

Q. HAS CPA DEMONSTRATED THAT ITS CURRENT SYSTEM OF RATES AND CHARGES DO NOT PROVIDE FOR ADEQUATE REVENUE STABILITY?

A. No. CPA's current system of rates and charges, which include fixed monthly customer charges, a Purchased Gas Adjustment mechanism, Rider WNA, and a distribution system improvement charge ("DSIC"), provide for revenue stability and CPS has not demonstrated that this stability is inadequate.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does at this time.

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION	)	
v.	)	Docket No. R-2020-3018835
COLUMBIA GAS OF PENNSYLVANIA, INC.	)	

SCHEDULES ACCOMPANYING THE

DIRECT TESTIMONY OF

JEROME D. MIERZWA

ON BEHALF OF THE

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

July 28, 2020

EXETER
ASSOCIATES, INC.
10480 Little Patuxent Parkway, Suite 300
Columbia, Maryland 21044

SCHEDULE JDM-1

COLUMBIA GAS OF PENNSYLVANIA, INC.
RATE OF RETURN BY CLASS - CURRENT @ CURRENT RATES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

ALLOCATED COST OF SERVICE
OCA PEAK AND AVERAGE

LINE NO.	ACCOUNT TITLE (A)	ALLOC FACTOR (B)	TOTAL COMPANY (C) $	RSS/RDS (D) $	SGS/DS-1 (E) $	SGS/DS-2 (F) $	SDS/LGSS (G) $	LDS/LGSS (H) $	MLDS (I) $	FLEX (J) $
1	TOTAL REVENUE [PAGE 6]		572,769,575	419,775,904	49,915,131	56,451,113	25,614,851	15,356,448	768,756	4,887,371
2	PRODUCTS PURCHASED [PAGE 7]		138,934,976	101,762,719	15,832,726	17,393,102	3,729,634	0	216,795	0
3	OPERATING & MAINTENANCE EXPENSES [PAGES 7 & 8]		198,274,043	143,704,548	14,544,092	13,674,083	8,421,648	9,070,905	29,301	8,829,466
4	DEPRECIATION & AMORTIZATION [PAGE 5]		98,832,789	61,725,188	8,303,075	9,525,896	6,021,334	6,619,027	29,146	6,609,123
5	TAXES OTHER THAN INCOME [PAGE 9]		3,829,403	2,577,787	321,635	316,994	194,441	210,745	315	207,487
6	TOTAL EXPENSES & TAXES OTHER THAN INCOME		439,871,211	309,770,241	39,001,528	40,910,075	18,367,056	15,900,677	275,557	15,646,077
7	OPERATING INCOME BEFORE TAXES		132,898,364	110,005,663	10,913,603	15,541,038	7,247,795	(544,229)	493,200	(10,758,706)
8	INCOME TAXES [PAGE 11]		16,511,959	16,169,262	1,330,317	2,111,070	790,369	(922,314)	101,065	(3,067,810)
9	INVESTMENT TAX CREDIT	12	(257,415)	(156,570)	(21,718)	(26,032)	(16,526)	(18,251)	(57)	(18,261)
10	NET INCOME TAXES		16,254,544	16,012,692	1,308,599	2,085,038	773,843	(940,565)	101,008	(3,086,071)
11	OPERATING INCOME		116,643,820	93,992,972	9,605,004	13,456,001	6,473,952	396,336	392,192	(7,672,635)
12	RATE BASE [PAGE 10]		2,401,427,019	1,444,718,192	201,795,949	248,823,552	157,622,491	173,819,697	494,435	174,152,702
13	RATE OF RETURN EARNED ON RATE BASE		4.857%	6.506%	4.760%	5.408%	4.107%	0.228%	79.321%	-4.406%
14	UNITIZED RETURN		1.00	1.34	0.98	1.11	0.85	0.05	16.33	(0.91)

COLUMBIA GAS OF PENNSYLVANIA, INC.
Development of Proportional Responsibilty Mains Cost Allocation Factors

COMPANY PROJECTED SALES

	Company	RSS/RDS	SGSS1	SGSS2	SDS	LDS	Flex
Jan	12,558,097	6,721,696	1,081,522	1,679,095	1,034,649	950,346	1,090,790
Feb	12,696,213	6,677,846	1,141,256	1,697,026	1,160,026	981,409	1,038,650
Mar	10,712,625	5,570,679	913,711	1,388,221	901,691	987,873	950,450
Apr	7,529,203	3,566,035	538,255	907,828	697,579	931,172	888,335
May	4,525,134	1,645,025	253,663	495,228	447,659	850,969	832,590
Jun	3,244,197	831,232	117,164	313,430	415,917	809,134	757,320
July	2,685,516	518,043	92,550	236,574	340,116	773,573	724,660
Aug	2,674,995	484,986	87,532	217,954	387,938	802,455	694,130
Sep	2,804,096	501,964	100,927	245,047	396,800	815,898	743,460
Oct	3,471,809	901,567	172,223	350,096	389,100	867,089	791,735
Nov	5,681,458	2,233,511	381,824	631,191	578,003	959,530	897,400
Dec	9,815,331	4,992,610	817,789	1,256,082	798,033	957,579	993,240
Total	78,398,675	34,645,192	5,698,416	9,417,769	7,547,511	10,687,026	10,402,760

COMPANY PROJECTED SENDOUT

Fuel 3.0%

	Total X-ML	RSS/RDS	SGSS1	SGSS2	SDS	LDS	Flex
Nov	5,857,173	2,302,588	393,633	650,712	595,879	989,206	925,155
Dec	10,118,898	5,147,020	843,081	1,294,929	822,714	987,195	1,023,959
Jan	12,946,492	6,929,583	1,114,971	1,731,026	1,066,648	979,738	1,124,526
Feb	13,088,880	6,884,377	1,176,553	1,749,512	1,195,903	1,011,762	1,070,773
Mar	11,043,943	5,742,968	941,970	1,431,155	929,579	1,018,425	979,845
Apr	7,762,065	3,676,324	554,902	935,905	719,154	959,972	915,809
May	4,665,086	1,695,902	261,509	510,544	461,505	877,287	858,340
Jun	3,344,533	856,940	120,788	323,124	428,780	834,159	780,742
July	2,768,573	534,065	95,412	243,891	350,635	797,498	747,072
Aug	2,757,726	499,986	90,239	224,695	399,936	827,273	715,598
Sep	2,890,821	517,489	104,049	252,625	409,072	841,132	766,454
Oct	3,579,184	929,450	177,549	360,924	401,134	893,906	816,222
Total	80,823,376	35,716,693	5,874,656	9,709,041	7,780,939	11,017,553	10,724,495

PROPORTIONATE RESPONSIBILTY FACTOR DEVELOPMENT

	Rank (2)	Percent of Peak (3)	Next Ranked Month (4)	Next Ranked Percent of Peak (5)	Difference (6)	Individual Weighting (7)	Rank (8)		Cumulative Weighting (9)	RSS/RDS	SGSS1	SGSS2 (10)	SDS	LDS	Flex
Nov	6	44.7492%	7	35.6416%	9.1076%	1.5179%	6	Nov	5.1691%	2.0321%	0.3474%	0.5743%	0.5259%	0.8730%	0.8165%
Dec	4	77.3091%	5	59.3027%	18.0064%	4.5016%	4	Dec	12.5814%	6.3996%	1.0482%	1.6101%	1.0229%	1.2274%	1.2731%
Jan	2	98.9121%	3	84.3765%	14.5356%	7.2678%	2	Jan	22.2050%	11.8852%	1.9123%	2.9689%	1.8294%	1.6804%	1.9287%
Feb	1	100.0000%	2	98.9121%	1.0879%	1.0879%	1	Feb	23.2928%	12.2514%	2.0938%	3.1134%	2.1282%	1.8005%	1.9055%
Mar	3	84.3765%	4	77.3091%	7.0674%	2.3558%	3	Mar	14.9372%	7.7675%	1.2740%	1.9357%	1.2573%	1.3774%	1.3253%
Apr	5	59.3027%	6	44.7492%	14.5535%	2.9107%	5	Apr	8.0798%	3.8268%	0.5776%	0.9742%	0.7486%	0.9993%	0.9533%
May	7	35.6416%	8	27.3452%	8.2964%	1.1852%	7	May	3.6511%	1.3273%	0.2047%	0.3996%	0.3612%	0.6866%	0.6718%
Jun	9	25.5525%	10	22.0861%	3.4664%	0.3852%	9	Jun	2.2419%	0.5744%	0.0810%	0.2166%	0.2874%	0.5591%	0.5233%
July	11	21.1521%	12	21.0692%	0.0829%	0.0075%	11	July	1.7633%	0.3401%	0.0608%	0.1553%	0.2233%	0.5079%	0.4758%
Aug	12	21.0692%			21.0692%	1.7558%	12	Aug	1.7558%	0.3183%	0.0575%	0.1431%	0.2546%	0.5267%	0.4556%
Sep	10	22.0861%	11	21.1521%	0.9340%	0.0934%	10	Sep	1.8567%	0.3324%	0.0668%	0.1623%	0.2627%	0.5402%	0.4923%
Oct	8	27.3452%	9	25.5525%	1.7928%	0.2241%	8	Oct	2.4660%	0.6404%	0.1223%	0.2487%	0.2764%	0.6159%	0.5624%
								Factors:	100.0000%	47.6954%	7.8464%	12.5020%	9.1780%	11.3945%	11.3836%

SCHEDULE JDM-3

COLUMBIA GAS OF PENNSYLVANIA, INC.
RATE OF RETURN BY CLASS - CURRENT @ CURRENT RATES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2021

ALLOCATED COST OF SERVICE
PROPORTIONATE RESPONSIBILITY

LINE NO.	ACCOUNT TITLE (A)	ALLOC FACTOR (B)	TOTAL COMPANY (C) $	RSS/RDS (D) $	SGS/DS-1 (E) $	SGS/DS-2 (F) $	SDS/LGSS (G) $	LDS/LGSS (H) $	MLDS (I) $	FLEX (J) $
1	TOTAL REVENUE [PAGE 6]		572,769,575	419,775,878	49,915,125	56,451,109	25,614,856	15,356,464	768,756	4,887,386
2	PRODUCTS PURCHASED [PAGE 7]		138,934,976	101,762,719	15,832,726	17,393,102	3,729,634	0	216,795	0
3	OPERATING & MAINTENANCE EXPENSES [PAGES 7 & 8]		198,274,043	141,130,406	13,924,408	13,282,509	8,933,718	10,618,810	29,301	10,354,891
4	DEPRECIATION & AMORTIZATION [PAGE 5]		98,832,789	59,728,702	7,822,823	9,223,082	6,418,181	7,819,116	29,146	7,791,739
5	TAXES OTHER THAN INCOME [PAGE 9]		3,829,403	2,516,436	306,866	307,699	206,650	247,629	315	243,810
6	TOTAL EXPENSES & TAXES OTHER THAN INCOME		439,871,211	305,138,262	37,886,822	40,206,392	19,288,182	18,685,555	275,557	18,390,440
7	OPERATING INCOME BEFORE TAXES		132,898,364	114,637,616	12,028,302	16,244,718	6,326,674	(3,329,091)	493,200	(13,503,054)
8	INCOME TAXES [PAGE 11]		16,511,959	17,388,369	1,623,667	2,296,110	547,928	(1,655,178)	101,065	(3,790,001)
9	INVESTMENT TAX CREDIT	12	(257,415)	(151,005)	(20,380)	(25,191)	(17,633)	(21,595)	(57)	(21,556)
10	NET INCOME TAXES		16,254,544	17,237,364	1,603,287	2,270,919	530,295	(1,676,773)	101,008	(3,811,557)
11	OPERATING INCOME		116,643,820	97,400,252	10,425,015	13,973,799	5,796,379	(1,652,319)	392,192	(9,691,498)
12	RATE BASE [PAGE 10]		2,401,427,019	1,391,523,632	189,002,427	240,750,219	168,195,929	205,796,131	494,435	205,664,247
13	RATE OF RETURN EARNED ON RATE BASE		4.857%	7.000%	5.516%	5.804%	3.446%	-0.803%	79.321%	-4.712%
14	UNITIZED RETURN		1.00	1.44	1.14	1.19	0.71	(0.17)	16.33	(0.97)

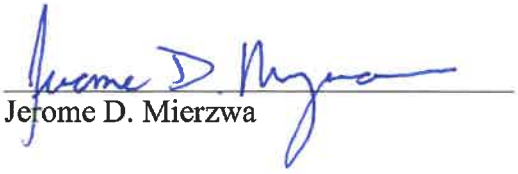
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2020-3018835
	:	
Columbia Gas of Pennsylvania, Inc.	:	

VERIFICATION

I, Jerome D. Mierzwa, hereby state that the facts set forth in my Direct Testimony, OCA Statement 4, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: July 28, 2020
*293024

Signature: 
Jerome D. Mierzwa

Consultant Address: Exeter Associates, Inc.
10480 Little Patuxent Parkway
Suite 300
Columbia, MD 21044-3575