IIEC Exhibit 1.0

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

NORTH SHORE GAS COMPANY **Proposed General Increase In Rates For Gas Service**	))))))	**Docket No. 14-0224**
THE PEOPLES GAS LIGHT AND COKE COMPANY **Proposed General Increase In Rates For Gas Service**	)))))))	**Docket No. 14-0225 (Consolidated)**

Direct Testimony and Exhibits of

Brian C. Collins

On behalf of

Illinois Industrial Energy Consumers

July 2, 2014

BRUBAKER & ASSOCIATES, INC.

Project 9901

STATE OF ILLINOIS

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Direct Testimony of Brian C. Collins

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Brian C. Collins. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and an Associate with Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A This information is included in Appendix A to my testimony.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A I am appearing on behalf of the Illinois Industrial Energy Consumers ("IIEC"). IIEC members are customers of Peoples Gas Light and Coke Company ("PGL") and North Shore Gas Company ("NS") (collectively, the "Companies" or "PGL/NS").

Q WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A Specifically, the purpose of my testimony is as follows:

1. Review and comment on certain aspects of the Companies' proposed class cost of service studies.
2. Outline the reasons why the Companies have inaccurately allocated costs related to transmission and distribution ("T&D") mains across customer classes.
3. Offer an alternative T&D main cost allocation method that more accurately reflects cost causation, and as a result, produces better price signals and encourages customers to make economic consumption decisions. This alternative method is the Coincident Demand method, also called the peak responsibility method, and

allocates capacity related cost based on the demands of the various classes of service at the time of the system peak. The American Gas Association's *Gas Rate Fundamentals, Fourth Edition*, refers to this method as the CP method.

4. I also propose a small mains adjustment to the Companies' cost of service studies to better reflect the allocation of the costs associated with mains smaller than 4 inches to the customer classes that actually receive service via mains smaller than 4 inches.

5. Based on the revised cost of service studies sponsored by my colleague Ms. Amanda Alderson, I recommend a modified revenue allocation of the Companies' proposed revenue deficiency across classes.

My silence on other aspects of the Companies' filings should not be construed as an endorsement or agreement with the Companies' position.

Q PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS ON CLASS COST OF SERVICE.

A My findings and recommendations are summarized as follows:

1. The cost of service studies proposed by the Companies are flawed because they allocate the cost of T&D mains (both rate base and expenses) to classes in part using a volumetric allocation factor. Specifically, the Companies use the Average and Peak method of cost allocation for T&D mains.

2. A major problem with the Average and Peak allocation is the fact that it double counts the "average" component of demand. Thus, total usage is counted twice in the allocation of demand costs, once in the peak allocation and again in the average demand allocation. The impact of using the Average and Peak method to allocate T&D costs is the over-allocation of costs to high load factor customers.

3. The Companies' proposal fails to meet the cost of service principle of cost causation. The Average and Peak method is inappropriate for ratemaking in this proceeding since this method does not appropriately reflect how the costs associated with T&D mains, including both rate base and expenses, are incurred by the Companies.

4. The Companies' T&D mains are designed to meet customers' contribution to the system peak day demand. Designing the T&D system in this way ensures that there is adequate capacity to provide customers service every day of the year, including the day of coincident peak day demand. Sizing the system to meet peak day demand effectively ensures the Companies' ability to offer firm uninterrupted service on all high demand days to all customers that desire firm service.

5. Because T&D main related costs are incurred to meet the system peak day demand, these costs should be allocated to customers based on their coincident contribution to the system peak day demand. Allocation of T&D main related costs on coincident demand reflects cost causation and properly allocates costs to customers based on their contribution to system load characteristics that caused the Companies to incur these costs to provide firm, uninterruptible gas delivery, and is consistent with the Companies' prior capacity allocation proposals.

6. Another flaw in the Companies' cost of service studies is the Companies' failure to distinguish between small and large distribution mains. The Companies do not utilize mains smaller than 4 inches to serve its largest customers such as those on Service Classification 4 ("S.C. 4"). Therefore, the cost of service studies should be corrected to reflect the delineation between small and large distribution mains across rate classes.

7. Designing rates that accurately reflect the cost-causation nature of the T&D system will provide customers with clear price signals to allow them to make economic consumption decisions. To the extent a customer can avoid peak day demand by modifying consumption, or making investment in plant and equipment that provides greater demand flexibility, that customer can reduce its annual gas delivery charges. Encouraging customers to make economic consumption decisions will improve the Companies' asset utilization, improve system efficiency, and result in lower costs for all customers on the system.

Q PLEASE OUTLINE YOUR RECOMMENDED ALLOCATION OF THE REVENUE DEFICIENCY IN THIS CASE.

A I propose to allocate the Companies' revenue deficiency to bring each class closer to actual cost of service. Based on my revisions to the Companies' class cost of service studies, while recognizing the principle of gradualism to prevent any one class from experiencing rate shock, I believe that an across-the-board increase is appropriate and supported by the modified cost of service studies.

Due to the flaws in the Companies' cost of service studies, I propose that the Companies' rate classes all receive an across-the-board increase. An across-the-board increase would move all classes closer to cost of service. The increase would be 8.74% for NS and 22.33% for PGL, based on the Companies' proposed revenue requirement. The actual across-the-board increase would be dependent on the final revenue requirement approved by the Commission for PGL and NS.

<u>Cost of Service – Average and Peak Demand Method</u>

Q HAVE YOU REVIEWED THE DIRECT TESTIMONY OF COMPANIES' WITNESS MS. JOYLYN HOFFMAN-MALUEG WITH RESPECT TO THE COMPANIES' PROPOSED COST OF SERVICE STUDIES?

A Yes.

Q DO YOU TAKE ISSUE WITH ANY ASPECT OF THE COMPANIES' CLASS COST OF SERVICE STUDIES?

A Yes, I disagree with the Companies' proposed cost of service studies with respect to the allocation of the costs associated with T&D mains.

Q HOW HAVE THE COMPANIES ALLOCATED THE COSTS OF T&D MAINS TO RATE CLASSES IN THEIR COST OF SERVICE STUDIES?

A The Companies have allocated both T&D rate base and expenses to classes in their cost of service studies using the Average and Peak allocation method. This method allocates costs using both the coincident peak day demand for each class and the average demand for each class. For each class, the Companies weight that class's percent of total Company coincident peak demand by (1 – the system load factor). The Companies weight the class's percent of total Company average demand by the system load factor. These two calculated percentages are then added together to establish an Average and Peak allocator for the class.

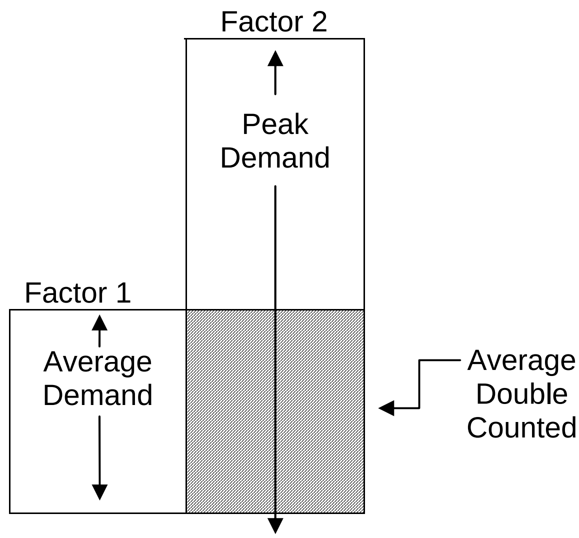
Q IS THE COMPANIES' ALLOCATION OF T&D COSTS USING THE AVERAGE AND PEAK ALLOCATOR APPROPRIATE?

A No, it is not. A major problem with the Average and Peak allocator is the fact that it double counts the "average" component of demand. Thus, total usage, or average demand, is counted twice in the allocation of demand costs, once in the peak allocation and again in the average demand allocation. The impact of using the Average and Peak method to allocate T&D main costs is the over-allocation of costs to high load factor customers.

Q PLEASE EXPLAIN HOW THE COMPANIES AVERAGE AND PEAK ALLOCATOR DOUBLE COUNTS AVERAGE DEMAND IN DEVELOPING A T&D MAIN CAPACITY ALLOCATOR.

A The Average and Peak demand allocation is a weighted cost allocation method that uses both average demand and peak demand in arriving at class allocation factors. This is represented graphically in Diagram 1 below. The average demand (Factor 1) is weighted by the system load factor ("LF"). Peak demand (Factor 2) is weighted by (1 – LF). The two weighted demands are added together to arrive at the Average and Peak allocation factor. As a result, arithmetically, average demand receives a full weight of 1, while peak demand is weighted less than 1.

Average and Peak Method



Average and Peak =
(LF x Factor 1) + (1 – LF) x Factor 2

Diagram 1

The diagram illustrates the two steps in the process of calculating the Average and Peak factors, the first of which is to determine the average demand component. The double counting of average demand occurs in the next step of the process where each class's contribution to the system's peak demand is determined. In this second step, the Average and Peak method considers the entire peak demand, including the average demand. As shown in the diagrams below, the double counting of average demand particularly affects the S.C. 4 class adversely since class average demand constitutes a larger percentage of coincident demand for this class as compared to the other rate classes. For PGL, class average demand constitutes 34% of coincident demand for the S.C. 4 class, versus 23% or less for the other classes. For NS, class average demand constitutes 60% of coincident demand for the S.C. 4 class, versus 23% or less for the other classes.

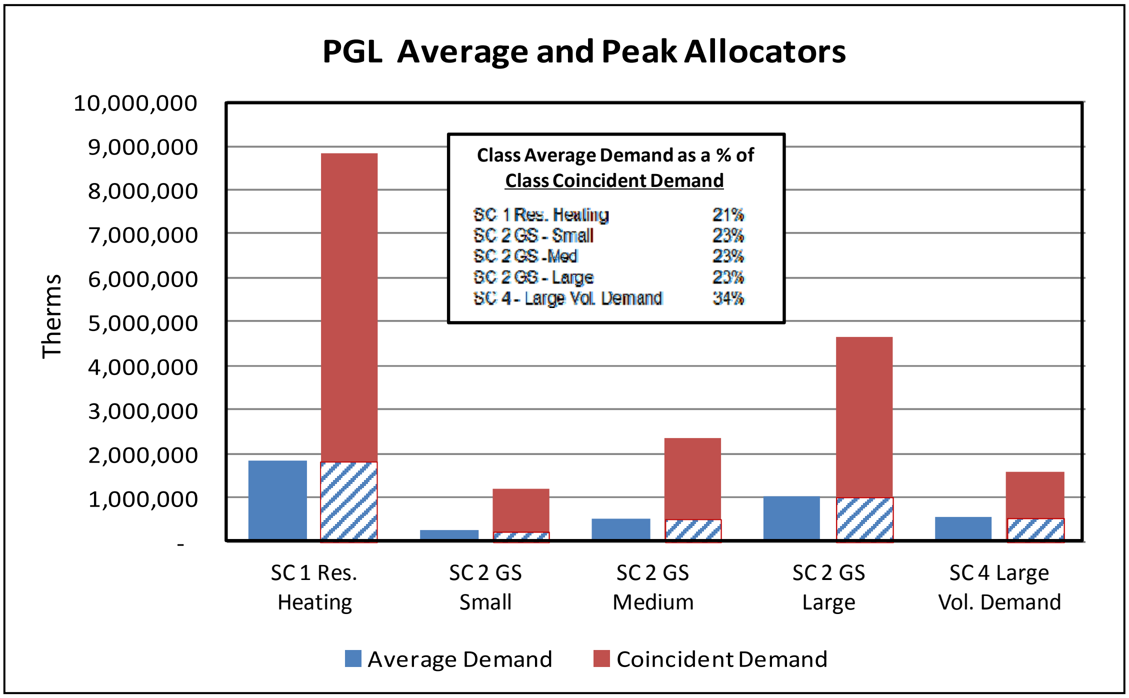


Diagram 2

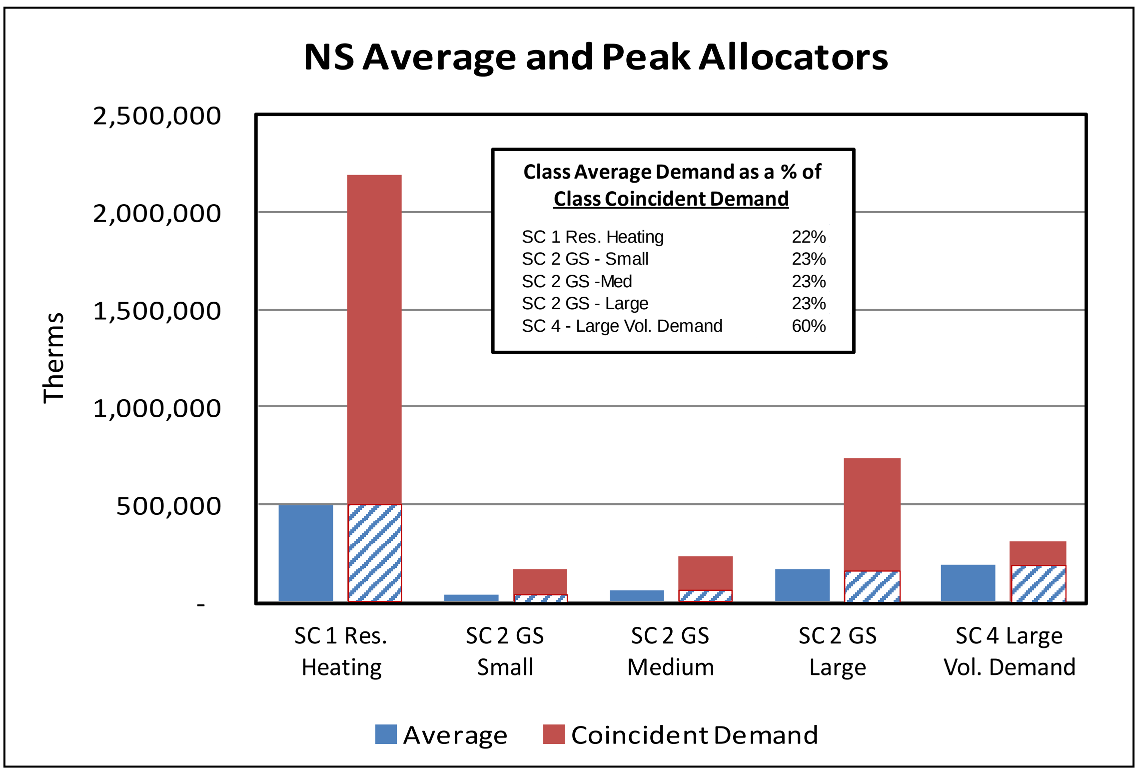


Diagram 3

As a rule, the Average and Peak method double counts the service classes' contributions to average demand, and the Companies' method is no exception. Since T&D systems are designed to meet the system peak demand, double counting average demand is inappropriate. Further, since average demand is simply the annual throughput, or usage, divided by the number of days in a year, the Companies' Average and Peak method overstates the cost responsibility of customers with load factors higher than the system average, including Non-Heating S.C. 1 Residential and S.C. 4 Large Volume Demand. This is shown in the following table comparing class Average and Peak allocators to class the Coincident Demand allocators.

TABLE 1

Class Allocators –
Average and Peak vs. Coincident Demand

Class	PGL Average and Peak %	PGL Coincident Demand %	NS Average and Peak %	NS Coincident Demand %
Non-Heating SC 1 Residential	0.47	0.42	.062	.056
Heating SC 1 Residential	46.22	47.07	58.33	60.31
SC 2 GS – Small	6.48	6.50	4.43	4.57
SC 2 GS – Medium	12.56	12.60	6.29	6.49
SC 2 GS – Large	24.72	24.80	19.56	20.18
SC 4 Large Volume Demand	9.49	8.55	11.32	8.39

The Companies' S.C. 4 large volume customers are doubly harmed by the Companies' cost of service methodology. First, these customers are allocated costs incurred to install and maintain mains smaller than 4 inches. Second, they are allocated a double portion of those costs on the basis of their annual usage of gas.

Q HOW DO YOU PROPOSE CORRECTING FOR THESE FLAWS IN THE COMPANIES STUDIES?

A My colleague Ms. Amanda Alderson describes the following modifications to the Companies cost of service studies:

1. The modified cost of service studies use the Coincident Demand method for allocating T&D mains costs instead of the Average and Peak method currently used by the Companies.

2. The cost of distribution mains less than 4 inches in diameter are separated from the cost of mains 4 inches and larger in diameter. By making these distinctions, the cost of service studies allow a more accurate and fair allocation of distribution mains costs.

There are advantages to using the Coincident Demand method over the Average and Peak method. First, the Coincident Demand method does not suffer from a double counting problem that sullies the Average and Peak method. The reason, of course, is that in the Coincident Demand method, the Average component is a subset of the Peak Demand component and counted only once in the allocation.

Second, unlike the Average and Peak method, the Coincident Demand method is one of the allocation methods listed in Gas Rate Fundamentals, the authoritative source cited by Ms. Hoffman Malueg.[1] Since the Companies use this source in developing their cost of service studies, it follows that the method cited in them can be used with more confidence.

[1] See PGL Ex. 14.0, page 15 and NS Ex. 14.0, page 15.

Q DOES THE COINCIDENT DEMAND METHOD ALLOCATE A PORTION OF MAIN COSTS ON AVERAGE USE (OR EQUIVALENTLY ANNUAL USAGE)?

A Yes. Like the Average and Peak method, it does allocate a portion of the costs on the basis of annual usage since Average Demand is a subset of Peak Demand. However, unlike the Average and Peak Method, the Coincident Demand method counts Average Demand only once when developing the cost allocation factor.

Q WHAT ARE THE RESULTS OF THE COST STUDIES USING THE COINCIDENT DEMAND METHOD?

A The results of the cost studies sponsored by my colleague, Ms. Amanda Alderson, are shown on her IIEC Exhibit 2.1. The Coincident Demand method is appropriate since it reflects how the T&D system is designed and therefore reflects cost causation.

Q YOU STATE THAT THE COINCIDENT DEMAND METHOD REFLECTS COST CAUSATION SINCE IT REFLECTS HOW GAS T&D SYSTEMS ARE DESIGNED. HOW DO GAS COMPANIES DESIGN THEIR T&D SYSTEMS?

A Gas distribution companies design and size their T&D systems based on the design day demand or the coincident peak demand requirements of its customers. The Companies' design of their systems allow them to offer firm uninterrupted service to all customers every day of the year, including the day the system peak day demand occurs. If the Companies designed their systems based on average day demands, then there may not be adequate capacity to meet the customers' coincident demands on the system peak day.

Q IS ANNUAL VOLUME, OR AVERAGE DEMAND, A DESIGN CRITERION FOR A TYPICAL LDC FACILITY?

A No. Annual volume, or average demand, is certainly a factor considered in identifying the variable cost of operating the system. However, the actual physical size of the T&D mains, compressors, and related equipment is based on customers' contributions to the system peak day demand. Annual volumes or average demands do not describe the main size or system capacity that is necessary to provide firm uninterruptible supply of service to all customers every day of the year. Rather, the system's capacity must be sized for peak day demand, so that all customers can utilize their entitlement to that capacity to receive a firm, uninterrupted, supply of gas every day of the year, including the day of the peak demand. Per the Companies' response to IIEC Data Requests 6.01 and 6.12, respectively, annual volume is not a design criterion in the design of the Companies' T&D systems.

Q IS THE COMPANIES' PROPOSAL TO USE THE AVERAGE AND PEAK METHOD IN ALLOCATING THE COSTS OF T&D MAINS REASONABLE?

A No. The Companies' proposal fails to meet the cost of service principle of cost causation. The Average and Peak method is inappropriate for ratemaking in this proceeding since this method does not appropriately reflect how the costs associated with T&D mains, including both rate base and expenses, are incurred by the Companies. The Average and Peak method allocates the costs associated with T&D mains partially on customer throughput. However, companies do not use total customer throughput or usage to design their T&D facilities, but rather use customer coincident peak demands. The Average and Peak method of cost allocation is inconsistent with cost causation on the T&D system. Therefore, allocation of T&D

main-related costs using Average and Peak is inappropriate since cost allocation does not follow how those costs are actually incurred. As a result, the Average and Peak allocation method creates an unbalanced allocation of T&D costs among customer classes.

Q CAN YOU PROVIDE AN ILLUSTRATION THAT EXPLAINS WHY ALLOCATING T&D MAIN COSTS USING THE AVERAGE AND PEAK ALLOCATION METHOD RATHER THAN THE COINCIDENT DEMAND METHOD CREATES AN UNBALANCED ALLOCATION OF T&D COSTS AMONG CUSTOMER CLASSES?

A Yes. I will focus on distribution main costs in this illustration. First, consider the service provided by distribution main capacity. Distribution main capacity allows customers that need firm service to receive firm service every day of the year, including the day of peak demand. As such, customers need an amount of capacity entitlement equal to their coincident peak day demand that allows them to receive firm service every day of the year. The actual usage of this capacity entitlement throughout the year then is a function of the customers' load factor.

Using the Average and Peak allocation method assigns a significant different net plant cost per unit of coincident demand to each customer class, even though all classes have equal rights to firm distribution capacity on the system peak demand day. Under the Average and Peak method, the cost for peak day demand capacity is significantly higher for the Companies' higher load factor customers, specifically the Non-Heating S.C. 1 Residential and S.C. 4 Large Volume Demand Service, than it is for low load factor customers. In other words, under the Average and Peak allocation method, customer classes that more efficiently utilize the T&D system pay a premium on a per unit of coincident demand basis for peak day capacity as compared to lower load factor customer classes. This is illustrated on my IIEC Exhibit 1.1.

As shown on pages 1 and 2 of this exhibit, under Column 5, lines 1-7 on page 1 and lines 1-6 on page 2, I reflect the Average and Peak allocation of the cost of distribution main net plant among customer classes as a cost per unit of coincident peak demand. The allocated distribution net plant cost, divided by the classes' coincident peak day demands, indicates the price each customer pays for this annual capacity. Under Column 5, lines 9-15 on page 1 and lines 8-13 on page 2, IIEC Exhibit 1.1, I provide the same calculation using a Coincident Demand allocation of distribution net plant cost.

Using an Average and Peak allocation results in a significant variation in the cost of net plant per unit of peak day demand capacity for each customer class. Low load factor customer classes pay a significantly below system average per unit cost, while high load factor customer classes pay significantly more than the average net plant cost on a per unit of peak day demand basis. However, allocating the Companies' same total net plant costs using each customer class's contribution to peak day demand shows a uniform net plant cost for the annual capacity entitlement needed by each customer class. As a result, the Coincident Demand method allocates the costs in a balanced way to all classes – all classes pay the same per unit cost for capacity.

I believe this illustrates the unreasonableness in allocating distribution main costs, which are incurred to ensure adequate capacity for all customers that require firm service throughout the year, on the basis of Average and Peak rather than their contribution to the system coincident peak day demand. All customer classes receive the same per unit cost of net plant when those costs are allocated on peak day coincident demand, but higher load factor customer classes (both residential non-heating and large volume users) pay significantly more for that capacity entitlement than do low load factor customer classes when net plant costs are allocated on the basis of the Average and Peak method.

On pages 3-4 of IIEC Exhibit 1.1, I present a similar analysis of distribution main expenses. The results are similar as for distribution net plant. Under the Average and Peak allocation method, all classes pay different costs on a per unit basis of peak day demand capacity, with the higher load factor classes (both residential non-heating and large volume users) paying the highest per unit cost. However, when those same total Company distribution expenses are allocated on coincident peak day demands, each class pays approximately the same per unit cost for distribution main expenses.

Q DOES THE AVERAGE AND PEAK ALLOCATION METHOD ALLOCATE ENOUGH T&D CAPACITY TO MEET THE COINCIDENT PEAK DAY DEMANDS OF EACH CUSTOMER CLASS?

A No. Another illustration of how the Average and Peak allocation method does not properly allocate T&D main capacity costs across customer classes is to compare the Average and Peak allocation of the total system capacity to each class, with the amount of actual capacity that is ***actually needed*** by each class on the coincident peak day. This is illustrated on IIEC Exhibit 1.2. The system peak day capacity allocated to each class under Average and Peak is shown in Column 2. However, the actual system capacity needed by each class on the peak day to meet each class's actual firm peak day demand requirements is shown in Column 1. As shown in Column 3, several classes have a shortfall in capacity, with the residential heating class having the greatest shortfall in allocated capacity as compared to the actual system capacity needed on the system peak day to meet its supply requirements. The residential non-heating and Large Volume Demand classes are over allocated system capacity using the Average and Peak allocation method, and as a result, subsidize the cost of capacity to other classes that have shortfalls in capacity needed to meet their peak day demand requirements.

Q SHOULD A COST ALLOCATION METHOD REFLECT HOW COSTS ARE ACTUALLY INCURRED ON THE COMPANIES' T&D SYSTEMS?

A Yes. A utility's selection of a particular cost allocation method should be based on whether that allocation method appropriately reflects class cost causation and results in rates that provide accurate price signals to its customers.

Since rates should reflect cost causation, the costs used in setting rates should be allocated to classes based on how they cause the costs to be incurred by the Companies. Further, the cost allocation method should be consistent with cost causation. Since T&D mains are designed to meet the demands of customers and not their gas throughputs or usages, allocating the costs of the T&D system based on demands is appropriate. A utility's T&D main investments must meet its customers' demands. A utility incurs the cost to construct and operate T&D mains to meet its customer peak day demands. Therefore, peak day demand is an appropriate cost allocation method for allocating T&D-related capital costs and expenses, since it allocates costs based on how they are incurred using customer demand and not annual throughput.

Allocating costs based on how they are incurred is consistent with the NARUC Gas Distribution Rate Design Manual (June 1989) which states at page 20:

> **Historic or embedded cost of service studies attempt to apportion total costs to the various customer classes in a manner consistent with the incurrence of those costs.** This apportionment must be based on the fashion in which the utility's system, facilities and personnel operate to provide the service. (Emphasis added).

Q DOES THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS ("NARUC") RECOGNIZE THAT DEMAND COSTS CAN BE ALLOCATED BASED ON PEAK DAY DEMANDS?

A Yes. In its 1989 manual, NARUC recognizes that demand or capacity related costs can be allocated to classes based on two factors: (1) peak day demands, and (2) the number of customers. The NARUC *Gas Distribution Rate Design Manual* states the following:

> **Demand or capacity costs vary with the size of plant and equipment**. They are related to maximum system requirements which the system is designed to serve during short intervals **and do not directly vary with the number of customers or their annual usage**. Included in these costs are: the capital costs associated with production, transmission and storage plant and their related expenses; the demand cost of gas; and most of the capital costs and expenses associated with that part of the distribution plant not allocated to customer costs, such as the costs associated with distribution mains in excess of the minimum size (pages 23-24, emphasis added).

Q WHAT IS THE BASIS FOR THE COMPANIES' PROPOSAL TO ALLOCATE T&D MAIN COSTS USING THE AVERAGE AND PEAK ALLOCATION METHOD?

A At page 12 of her direct testimony (NS Ex. 14.0 and PGL Ex. 14.0), Ms. Hoffman Malueg states that the Companies have utilized the Average and Peak demand allocation methodology to limit the scope of contested issues. She also points out that the Average and Peak method has the effect of allocating a portion of the utility's capacity costs on a commodity-related or volume basis.

Q DO THE COMPANIES' T&D SYSTEMS ALLOW CUSTOMERS TO RECEIVE VOLUMES OF GAS THROUGHOUT THE YEAR?

A I do not dispute that after the systems are designed and constructed to meet peak day demands, customers use the T&D systems to have volumes of gas delivered throughout the year. However, if customers expect supply sufficient to meet their peak firm demand, then they should pay for adequate T&D capacity to allow gas to be delivered every day to meet their expected demands, including days with above average demands. Otherwise, they will not be allocated adequate capacity to deliver gas on days with above average usage, which would be most cold days, and their service would be interrupted on all of those days. This is illustrated in IIEC Exhibit 1.2.

It is the peak day demand which drives the cost incurred in order to design, construct, implement and maintain a T&D system that is adequate to provide firm service throughout the year, including the peak day, to all customers that want firm service. T&D systems are sized based on peak day demands to ensure that firm gas supply can actually be delivered every single day of the year. Since cost causation is driven by peak demand, T&D-related costs should be allocated based on peak demand.

If the T&D system can meet the peak day demand of its customers, it can meet the demand of its customers on every single day of the year. Daily needs must be met, but the only way that can happen is through a system that is designed to meet the peak day demand. The system must be designed and maintained to meet the peak day demands. If the peak day demand can be met, it follows that all daily demands will be met as well.

Q HAVE THE COMPANIES PREVIOUSLY RECOMMENDED THE USE OF THE COINCIDENT DEMAND METHOD TO ALLOCATE T&D MAIN RELATED COSTS TO CUSTOMER CLASSES?

A Yes. In Docket Nos. 07-0241 and 07-0242 Consolidated, the Companies advocated for the use of the Coincident Demand method to allocate the costs of T&D mains to customer classes. In those dockets, the Companies' position with respect to the allocation of T&D mains is best summarized by the Companies' witness Ronald J. Amen in his rebuttal testimony at page 10, lines 121-123:

> Simply put, **the CP method is the most appropriate indicator of cost causation** for the Companies on their gas distribution systems in preceding rate cases and it continues to be the soundest approach. (emphasis added)

Q WHAT WAS MR. AMEN'S OPINION OF THE AVERAGE AND PEAK ALLOCATION METHOD IN DOCKET NOS. 07-0241 AND 07-0242 CONSOLIDATED?

A In response to the argument that Average and Peak is an appropriate allocation method since the T&D system is utilized throughout the entire year, Mr. Amen stated the following at page 5, lines 94-107 of his rebuttal testimony:

> It has been my experience that regulators may rely upon the A&P allocation method to moderate the cost levels by customer class to support the achievement of certain rate design objectives. This is done by imposing non-cost considerations, such as fairness and equity, into the cost study to reflect perceived benefits derived by customers from their off-peak use of the system. From a cost causation perspective, however, there is nothing fair or theoretically sound about allocating costs to customers who do not cause these costs to be incurred.

Mr. Amen further stated at pages 7-8, lines 159-162

> From a cost perspective, the fact that the system is utilized year round is irrelevant because the capacity cost of the system is a function of the system peak day and not the variations of demand from various customer groups that occur throughout the year.

Q DO YOU AGREE WITH THESE ARGUMENTS MADE ON BEHALF OF THE COMPANY IN OPPOSITION TO THE AVERAGE AND PEAK ALLOCATION METHOD?

A Yes. Using the Average and Peak allocation method to allocate capacity related costs based on perceived benefits resulting from year round use of the Companies' T&D systems is not based on cost causative factors. Benefits are in the eye of the beholder. There are no objective measures to define such benefits or determine to what extent particular customers derived such benefits. In contrast, cost-causation is based on the T&D system's engineering and an understanding of the drivers that determine a utility's costs. The Coincident Demand allocation method best represents cost allocation on the Companies' T&D systems.

Cost of Service Small Mains Adjustment

Q HAVE THE COMPANIES DELINEATED BETWEEN SMALL AND LARGE DISTRIBUTION MAINS ON ITS SYSTEM IN THEIR COST OF SERVICE STUDIES?

A No, they have not.

Q ARE ALL CLASSES SERVED TO THE SAME EXTENT BY THE DIFFERENT SIZES OF MAINS?

A The system of mains is akin to the branches of a tree; the gas flows from the largest diameter mains into successively smaller sizes of mains. The largest mains serve both large and small volume customers. However, the larger volume customers cannot be served by the smaller diameter mains, because mains with small diameters simply do not have sufficient capacity to supply those customer's needs.

Q DO MOST LARGER VOLUME CUSTOMERS SUCH AS S.C. 4 CUSTOMERS MAKE USE OF MAINS SMALLER THAN 4 INCHES ON THE COMPANIES' SYSTEMS?

A No. It is my understanding that all but three of the Companies' S.C. 4 customers do not utilize mains smaller than 4 inches when receiving service from the Companies.

Q ARE THE COSTS OF MAINS SMALLER THAN 4 INCHES ALLOCATED TO LARGE VOLUME CUSTOMERS IN THE COMPANIES' COST OF SERVICE STUDIES?

A Yes. The Companies cost of service studies show net plant balances of $1.03 billion for PGL and $117 million for NS in FERC Account 376 – Distribution Mains. This balance includes the cost of all distribution mains regardless of their diameter. Further, this balance is distributed, within the cost of service studies, to all service classes on the basis of the Companies' Average and Peak allocation factors.

In distributing mains costs, the Companies' cost of service studies allocate the costs of 2-inch and 3-inch mains to customers that bear no responsibility for the Companies' investment in those mains. The situation is exacerbated by the Companies use of the Average and Peak allocation factors which overemphasize each class's average demand. The net result of the Companies' allocation method is a significant overstatement of mains-related costs to large volume customers.

Q HAVE YOU PROPOSED A SMALL MAINS ADJUSTMENT IN THE COMPANIES COST OF SERVICE STUDIES?

A Yes. I propose to delineate the costs of mains smaller than 4 inches and allocate those costs to all classes except for the S.C. 4 class. Since all but three S.C. 4

customers (out of 180 S.C. 4 customers based on June 2014 data provided by the Companies in response to IIEC Data Requests 6.06, 6.08, 6.18 and 6.20) do not utilize mains smaller than 4 inches in receiving service, this adjustment properly reflects cost causation.

Q WHAT ARE THE RESULTS OF THE COST STUDIES USING THE COINCIDENT DEMAND METHOD AND THE SMALL MAINS ADJUSTMENT?

A The results are shown on Ms. Alderson's IIEC Exhibit 2.1.

Accurate Price Signals

Q DOES ALLOCATING T&D MAIN COSTS IN PART ON ANNUAL VOLUME OR ANNUAL THROUGHPUT ENCOURAGE THE EFFICIENT UTILIZATION OF THE GAS T&D SYSTEM?

A No, it does not. The efficient utilization of the T&D system is best accomplished by minimizing the peak day demand in relationship to annual volume. This enhances the customer load factor and reduces the per unit cost of gas delivery. That is, a customer with a higher load factor moves more volume throughout the system relative to the customer's peak day demand. A lower load factor customer on the other hand moves less gas volume through the T&D system in relationship to their peak day demand.

Q WHAT IS THE IMPORTANCE OF USING AN ALLOCATION METHOD THAT RESULTS IN RATES THAT PROVIDE ACCURATE PRICE SIGNALS TO CUSTOMERS?

A If customers are given accurate price signals, which are designed based on accurate allocation of costs among customer classes, customers can change consumption behavior in order to manage their costs. If a change in the customer's peak day consumption lowers the utility's costs, and produces greater utilization of existing assets, the utility can avoid cost increases which can be passed on to customers via lower prices. If a utility develops rates reflecting costs that are allocated on its customers' cost responsibility, this encourages energy efficiency.

Q DO ACCURATE PRICE SIGNALS PROVIDE INCENTIVES TO CUSTOMERS TO MINIMIZE THEIR COST OF SERVICE?

A Yes. If a customer wants to minimize its cost of service, the customer could make investments in energy efficiency assets, or modify its operations to shift usage away from the peak day. If the customer shifts consumption away from the peak day and its average annual volume remained the same, then the utility's and customer's annual load factors would improve. The T&D capacity the customer would need to serve its peak day load would decrease. This would release peak day capacity which the utility could then use to serve new customers or serve existing customer growth. This produces greater utilization of existing assets and allows the utility to reduce prices. Basing rates on cost and allocating those costs based on customers' cost responsibility encourages energy efficiency and demand reductions.

Q WOULD CUSTOMERS HAVE THE SAME ECONOMIC INCENTIVE TO MODIFY DEMANDS IF COSTS ARE NOT ALLOCATED BASED ON COST CAUSATION?

A No. Under the Companies' current proposal for allocating T&D-related costs using the Average and Peak allocation method, if a customer took the initiative to reduce peak day demand or improve its load factor and the T&D costs were partially allocated on volume, this customer's allocated share of the T&D main costs would not be minimized despite taking load off the peak day. As a result, the maximum cost savings would not be available to this customer for taking the initiative to reduce its peak day demand, improve its load factor, and release peak day capacity to the utility which the utility could then use to serve new customers or existing customers' growth. The economic incentive for this customer to undertake procedures that improve economic utilization of the utility's infrastructure would be reduced if T&D main costs are partially allocated on volumes or average demands. In fact, the customer may feel an incentive to reduce usage or even at some point to engage in otherwise uneconomic bypass of the utility, increasing unit cost on the system.

In contrast, if the Company allocated the cost of T&D mains on peak day demands, then this customer's allocated share of the costs associated with T&D mains would be minimized if it is able to reduce its peak day demand. The capacity cost savings would be maximized and result in greater compensation to the customer for its cost of improving its load factor (i.e., installing energy efficient equipment or changing production procedures to shift usage away from the system peak day demand), and this customer would have a greater economic incentive to pursue this improvement to its load factor if costs are allocated on peak day demands as compared to costs allocated partially on volume or average demands.

Q DO ACCURATE PRICE SIGNALS ALSO BENEFIT A UTILITY?

A Yes. If its customers are able to reduce their peak day demands, the utility would be able to use the released peak day capacity to serve new customers or support existing customers' growth without incurring additional T&D-related costs. Thus, reductions in existing customer peak day demands would lower the utility's cost of service. This will result in an improvement to the utility's load factor, increase the utilization of the utility's existing T&D system, and improve the economic utilization of the utility's assets.

Q WHAT IS YOUR RECOMMENDATION WITH RESPECT TO THE ALLOCATION OF T&D MAIN COSTS IN THE COMPANIES' COST OF SERVICE STUDIES?

A It would be more appropriate to use the Coincident Demand allocator to allocate the T&D main costs of the Companies. Since gas T&D systems are designed based on peak day demands, the best cost-causation allocation factor for T&D costs among customers is peak day demands. Therefore, I recommend that class coincident peak day demands and not the Average and Peak allocator be used to allocate the costs of T&D mains. I also recommend that the Companies' cost of service studies delineate between small and large distribution mains.

<u>Revenue Allocation</u>

Q WHAT IS YOUR RECOMMENDATION WITH RESPECT TO REVENUE ALLOCATION?

A Due to the flaws in the Companies' cost of service studies, I recommend an across-the-board increase. Based on the results of the modified Companies' cost of service studies using the Coincident Demand allocation for T&D main-related costs and utilizing a small mains adjustment, an across-the-board increase is reasonable and results in moderate increases for all classes. An across-the-board increase is supported by the modified cost of service studies sponsored by my colleague, Ms. Amanda Alderson.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes, it does.

Qualifications of Brian C. Collins

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Brian C. Collins. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU EMPLOYED?

A I am an Associate in the field of public utility regulation with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I graduated from Southern Illinois University Carbondale with a Bachelor of Science degree in Electrical Engineering. I also graduated from the University of Illinois at Springfield with a Master of Business Administration degree. Prior to joining BAI, I was employed by the Illinois Commerce Commission and City Water Light & Power ("CWLP") in Springfield, Illinois.

My responsibilities at the Illinois Commerce Commission included the review of the prudence of utilities' fuel costs in fuel adjustment reconciliation cases before the Commission as well as the review of utilities' requests for certificates of public convenience and necessity for new electric transmission lines. My responsibilities at CWLP included generation and transmission system planning. While at CWLP, I completed several thermal and voltage studies in support of CWLP's operating and planning decisions. I also performed duties for CWLP's Operations Department, including calculating CWLP's monthly cost of production. I also determined CWLP's allocation of wholesale purchased power costs to retail and wholesale customers for use in the monthly fuel adjustment.

In June 2001, I joined BAI as a Consultant. Since that time, I have participated in the analysis of various utility rate and other matters in several states and before FERC. I have filed or presented testimony before the Arkansas Public Service Commission, Florida Public Service Commission, the Idaho Public Utilities Commission, the Illinois Commerce Commission, the Indiana Utility Regulatory Commission, the Minnesota Public Utilities Commission, the Missouri Public Service Commission, the Public Utilities Commission of Ohio, the Rhode Island Public Utilities Commission, the Public Service Commission of Wisconsin, and the Wyoming Public Service Commission. I have also assisted in the analysis of transmission line routes proposed in certificate of convenience and necessity proceedings before the Public Utility Commission of Texas.

In 2009, I completed the University of Wisconsin – Madison High Voltage Direct Current ("HVDC") Transmission Course for Planners that was sponsored by the Midwest Independent Transmission System Operator, Inc. ("MISO").

BAI was formed in April 1995. BAI and its predecessor firm has participated in more than 700 regulatory proceeding in forty states and Canada.

BAI provides consulting services in the economic, technical, accounting, and financial aspects of public utility rates and in the acquisition of utility and energy services through RFPs and negotiations, in both regulated and unregulated markets. Our clients include large industrial and institutional customers, some utilities and, on occasion, state regulatory agencies. We also prepare special studies and reports, forecasts, surveys and siting studies, and present seminars on utility-related issues.

In general, we are engaged in energy and regulatory consulting, economic analysis and contract negotiation. In addition to our main office in St. Louis, the firm also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

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