Exhibit No. BCC-1T
Dockets UE-160228/UG-160229
Witness: Brian C. Collins

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,	)	
Complainant,	)	
v.	)	**DOCKETS UE-160228 and UG-160229 (Consolidated)**
AVISTA CORPORATION, DBA AVISTA UTILITIES,	)	
Respondent.	)	

RESPONSE TESTIMONY OF BRIAN C. COLLINS

ON BEHALF OF

THE NORTHWEST INDUSTRIAL GAS USERS

August 17, 2016

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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 a Principal of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. These are set forth in Exhibit No. BCC-2.

Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A. I am appearing on behalf of the Northwest Industrial Gas Users ("NWIGU").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I will respond to Avista Corporation's ("Avista" or the "Company") testimony with respect to cost of service and comment on certain aspects of the Company's proposed class cost of service study. Specifically, the purpose of my testimony is as follows:

1. To the extent that the Washington Utilities and Transportation Commission ("WUTC" or "Commission") approves the Company's proposal for Advanced Metering Infrastructure ("AMI"), correct the Company's class cost of service study to appropriately include all proposed natural gas distribution related AMI investment cost (both plant and expenses) in Account 381 - Meters.

2. Outline the reasons why the Company has inaccurately allocated costs related to distribution mains and regulator station equipment across customer classes.

3. Offer an alternative distribution main and regulator station equipment 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, which 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. Recommend that the Company's class cost of service study properly classify a portion of distribution main costs as customer related and allocate those costs on the number of customers. This will appropriately recognize that a portion of the Company's distribution system is attributable to the location of customers on the system and is not related to demand or capacity, but rather related to the length of distribution system mains.

5. The WUTC invests considerable resources in ensuring that natural gas local distribution companies ("LDCs") make least cost investments through the preparation and review of integrated resource plans. The Company plans its distribution main system to meet the peak day demand of its customers. Thus, peak day demand best reflects cost causation on the Company's system. When ratemaking ignores cost causation by allocating a significant portion of distribution main cost on a volumetric basis, ratemaking undermines least cost planning.

6. Recommend that the revenue allocation to the Company's rate classes be based on the results of the Company's cost study containing my revisions to the allocation of distribution main and regulator station equipment related costs. To the extent the WUTC accepts NWIGU's and other parties' adjustments to the Company's proposed revenue requirement, the rate spread would be adjusted accordingly.

7. Recommend the creation of a new rate schedule that allows smaller commercial and industrial customers the ability to transport natural gas.

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

Q. PLEASE EXPLAIN WHY THE COINCIDENT DEMAND METHOD IN COMBINATION WITH A CUSTOMER COMPONENT OF DISTRIBUTION MAIN COST MORE ACCURATELY REFLECTS COST CAUSATION THAN THE COMPANY'S PROPOSED PEAK AND AVERAGE METHOD?

A. The Company designs its distribution mains and regulator station equipment to meet the firm coincident demands of the Company's rate classes on the system peak day. The Company also designs its system of distribution mains in such a way that all customers are connected to the system. The Company does not design its system to meet the total annual volumes, or average demands, of its rate classes. Only when the distribution main system is designed to meet the peak day demand of its classes is the Company able to deliver gas each and every day of the year to meet its customers'

demands. Thus, the Company incurs the costs of these facilities to meet class coincident demands and to connect all customers to the distribution main system. Allocating the costs of these facilities on a coincident demand basis and on a customer basis reflects how these costs are incurred and as a result, more accurately reflects cost causation than the Peak and Average method, which partially allocates these costs on a volumetric, or average demand, basis.

Conclusions and Recommendations

Q. PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS REGARDING AVISTA'S CLASS COST OF SERVICE STUDY.

A. My findings and recommendations are summarized as follows:

1. All AMI related gas distribution plant and expenses should be included in Account 381 - Meters in the Company's class cost of service study. The Company has improperly included a portion of AMI investment cost in several distribution plant and expense accounts, including Account 376 - Mains and other distribution related accounts, such as Accounts 374, 375, 378, 379, 380, and 385.[1] Based on my review of the Company's AMI proposal, the Company's investment costs are related only to meters. As a result, I have corrected the Company's cost of service study to include all AMI distribution related investment costs only in Account 381 - Meters.

2. The cost of service study proposed by the Company is flawed because it allocates the capacity related cost of distribution mains and regulator station equipment (both rate base and expenses) to classes in large part using a volumetric allocation factor. Specifically, the Company used the Peak and Average method of cost allocation for distribution mains and regulator station equipment. The Peak and Average method does not accurately reflect cost causation because the capacity of the natural gas system is designed to meet firm class coincident demands and not annual class volumes, or class average demands.

3. A major problem with the Peak and Average 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 Peak and Average method to

[1/] Account 374 – Land & Land Rights; Account 375 – Structures & Improvements; Account 378 – Meas & Reg Station Equip - General; Account 379 - Meas & Reg Station Equip – City Gate; Account 380 - Services; Account 385 – Industrial Meas & Reg Station Equip.

allocate distribution costs is the over-allocation of capacity costs to high load factor customers.

4. The Company has also failed to include a customer component associated with distribution main cost. A customer component properly recognizes distribution main costs that are related to the length of mains on the system incurred to connect customers to the distribution main system.

5. As a result, I have corrected the Company's class cost of service study to allocate capacity related distribution main and regulator station equipment costs on the Coincident Demand method and to classify and allocate a portion of distribution main costs on the number of customers.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS WITH RESPECT TO THE DEVELOPMENT OF AN ACCURATE ALLOCATION OF THE COSTS OF DISTRIBUTION MAINS AND REGULATOR STATION EQUIPMENT.

A. My conclusions are summarized as follows:

1. The Company's proposal to allocate distribution main and regulator station equipment costs fails to meet the cost of service principle of cost causation. The Peak and Average method is inappropriate for ratemaking in this proceeding because this method does not appropriately reflect how the capacity related costs associated with distribution mains and regulator station equipment, including both rate base and expenses, are incurred by the Company.

2. The Company's distribution mains and regulator station equipment are designed to meet customers' contribution to the system peak day demand. Distribution mains are also designed taking into account the location of all customers on the system to ensure that they are connected to the Company's system of mains. Designing the distribution 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 and also ensures that all customers are connected to the system of gas distribution mains. Sizing the system to meet peak day demand and connecting all customers to the system effectively ensures the Company's ability to offer firm uninterrupted service on all high demand days to all customers that desire firm service.

3. Because distribution main and regulator station equipment related costs are incurred to meet the system peak day demand, capacity related costs should be allocated to customers based on their coincident contribution to the system peak day demand. Allocation of distribution main and regulator station equipment capacity 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 Company to incur these costs to provide firm, uninterruptible gas delivery.

4. To properly recognize that there is a cost of distribution mains related to the length of mains attributable to the location of the Company's customers on the distribution system, a portion of distribution mains costs should be classified and allocated on a customer basis.

Q. WHY IS IT IMPORTANT TO DEVELOP AN ACCURATE CLASS COST OF SERVICE STUDY?

A. An accurate cost of service study is important in designing rates. Designing rates that accurately reflect the cost-causation nature of the distribution 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 Company's asset utilization, improve system efficiency, and result in lower costs for all customers on the system.

Q. WHAT IS YOUR RECOMMENDATION WITH RESPECT TO THE ALLOCATION OF THE REVENUE DEFICIENCY IN THIS CASE?

A. I propose to allocate the Company's revenue deficiency to bring each class closer to its actual cost of service based on my revisions to the Company's class cost of service study. It should be noted that the results of my cost of service study are based on the proposed revenue requirement of the Company. The final results will be based on the revenue requirement approved by the WUTC.

My proposed revenue allocation is shown on line 12 of Exhibit No. BCC-3. Under my proposed revenue allocation, the Schedule 101 class receives an increase of 6.5%, or 1.29 times the system average increase of 5.1%, while all other classes' current rate levels are maintained. Although the results of my class cost of service

study indicate that the Schedule 101 class should receive a 17.9% increase while all other classes should receive decreases in current rates, I recommend that the Schedule 101 class receive only a 6.5% increase while all other classes are kept at current rate levels in order to recognize the principle of gradualism.

Treatment of AMI Investment in the Cost of Service Study

Q. DOES THE COMPANY PROPOSE TO RECOVER THE COSTS OF AMI RELATED INVESTMENT FROM ITS NATURAL GAS CUSTOMERS?

A. Yes. According to the Company's response to Data Request No. PC/EP – 40, the Company plans to include $8,339,000 of gross meter plant, $278,000 of accumulated meter depreciation as well as $555,000 of meter depreciation expense in rates. The Company also plans to include AMI related general plant rate base and expenses in rates as well.

Q. HOW HAS THE COMPANY INCLUDED THE AMI INVESTMENT COST AND EXPENSES AS PRO FORMA ADJUSTMENTS IN ITS COST OF SERVICE STUDY?

A. The Company has taken the meter rate base and expenses functionalized as distribution and apportioned it to all existing distribution plant and expense accounts[2/] that currently have balances. For example, Account 376 - Mains currently accounts for 49.4% of gross distribution plant. As a result, the Company has allocated 49.4% of the $8,339,000 in AMI gross plant investment to Account 376, or $4,123,000. In other words, the Company has apparently increased its Account 376 Mains gross plant

[2/] Account 374 – Land & Land Rights; Account 375 – Structures & Improvements; Account 376 – Mains; Account 378 – Meas & Reg Station Equip - General; Account 379 - Meas & Reg Station Equip – City Gate; Account 380 - Services; Account 385 – Industrial Meas & Reg Station Equip.

account by $4,123,000 as a result of investing in AMI meters for its gas system. The Company has followed the same process for all distribution accounts.

Q. IS THIS APPROPRIATE?

A. No, based on my review of the testimony of Company witness Ms. Karen K. Schuh at pages 38-39, she states that existing natural gas meters will be upgraded with a new digital communicating module. No mention of investments in mains or other plant accounts is described in the testimony. In addition, the Company's response to Data Request No. PC/EP – 40 identifies the AMI investment costs (plant and expense) as meter plant and expenses. The Company's treatment of the AMI investment costs in the cost of service study is at odds with the testimony and data request response. The treatment of AMI investment in the class cost of service study results in incorrectly allocating the AMI investment cost to classes. Because the investment appears to be related to meter plant and expenses only, it is inappropriate to include a portion of these costs in anything but Account 381 - Meters.

Q. HAVE YOU CORRECTED THE COST OF SERVICE STUDY TO INCLUDE AMI DISTRIBUTION PLANT AND EXPENSES IN ACCOUNT 381 – METERS??

A. Yes, to the extent that the WUTC accepts the Company's proposal to recover AMI related costs, the Company's class cost of service study should be corrected. I have corrected the class cost of service study to correctly include all AMI related plant and expenses in Account 381.

Cost of Service – Peak and Average Demand Method

Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY OF COMPANY WITNESS JOSEPH D. MILLER WITH RESPECT TO THE COMPANY'S PROPOSED NATURAL GAS COST OF SERVICE STUDY?

A. Yes.

Q. DO YOU TAKE ISSUE WITH ANY ASPECT OF THE COMPANY'S NATURAL GAS CLASS COST OF SERVICE STUDY?

A. Yes. I disagree with the Company's proposed cost of service study with respect to the allocation of the capacity related costs associated with distribution mains and regulator station equipment.

Q. HOW HAS THE COMPANY ALLOCATED THE CAPACITY RELATED COSTS OF DISTRIBUTION MAINS AND REGULATOR STATION EQUIPMENT TO RATE CLASSES IN ITS COST OF SERVICE STUDY?

A. The Company has allocated both rate base and expenses for these facilities to classes in its cost of service study using the Peak and Average allocation method. At pages 13-14 of Exhibit No. ___(JDM-1T), Mr. Miller describes the allocation of distribution facilities' (both mains and regulator station equipment) costs using the Peak and Average 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 Company weights that class's percent of total Company coincident peak demand by (1 – the system load factor). The Company weights the class's percent of total Company average demand by the system load factor. These two calculated percentages are then added together to establish a Peak and Average allocator for the class.

Q. IS THE COMPANY'S ALLOCATION OF DISTRIBUTION FACILITIES' CAPACITY RELATED COSTS USING THE PEAK AND AVERAGE ALLOCATOR APPROPRIATE?

A. No, it is not. The Peak and Average method does not accurately reflect cost causation because it allocates capacity costs in large part using a volumetric, or average demand, component. The Company incurs capacity related costs on a coincident demand basis because it designs its gas system to meet the firm coincident demands of its rate

classes. The major problem with the Peak and Average 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 Peak and Average method to allocate distribution main and regulator station equipment costs is the over-allocation of costs to high load factor customers.

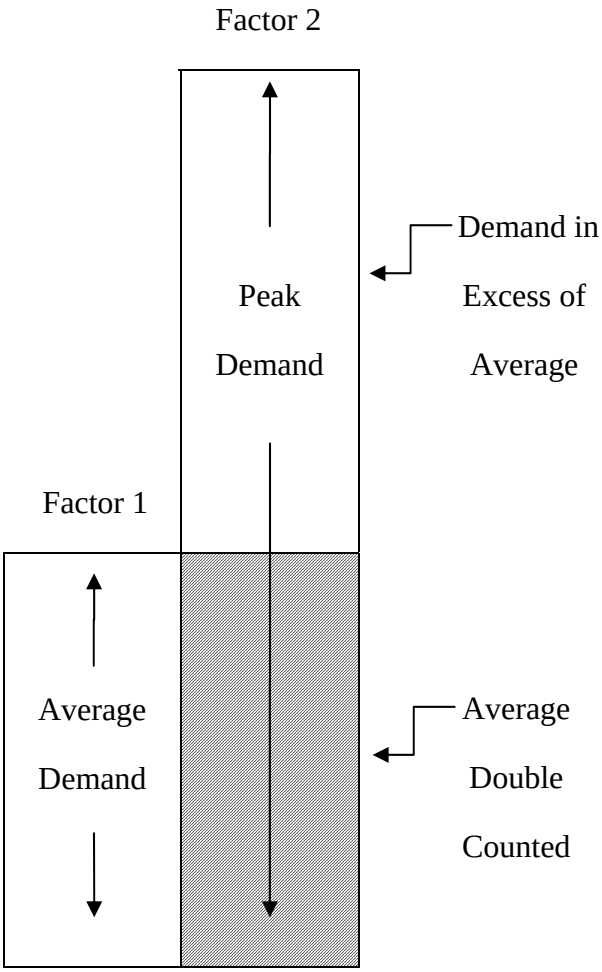
Q. PLEASE EXPLAIN HOW THE COMPANY'S PEAK AND AVERAGE ALLOCATOR DOUBLE COUNTS AVERAGE DEMAND IN DEVELOPING A DISTRIBUTION FACILITIES CAPACITY ALLOCATOR.

A. The Peak and Average demand allocation is a weighted cost allocation method that uses both peak demand and average 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 Peak and Average allocation factor. As a result, arithmetically, average demand receives a full weight of 1, while demand in excess of the average is weighted less than 1 (i.e. by (1 – LF).)

Peak

and Average

Method



Peak and Average =

(LF x Factor 1) + (1 – LF) x Factor 2

Diagram 1

Diagram 1 illustrates the two steps in the process of calculating the Peak and Average 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 Peak and Average method considers the entire peak demand, including the average demand. As shown in Diagram 2 below, the double counting of average demand particularly affects the Schedule 146 class adversely because class average demand constitutes a larger percentage of coincident demand for this class as compared to the other rate classes. For example, class average demand constitutes 60.6% of coincident demand for the Schedule 146 class, versus 35.8% for the Schedule 101 class.

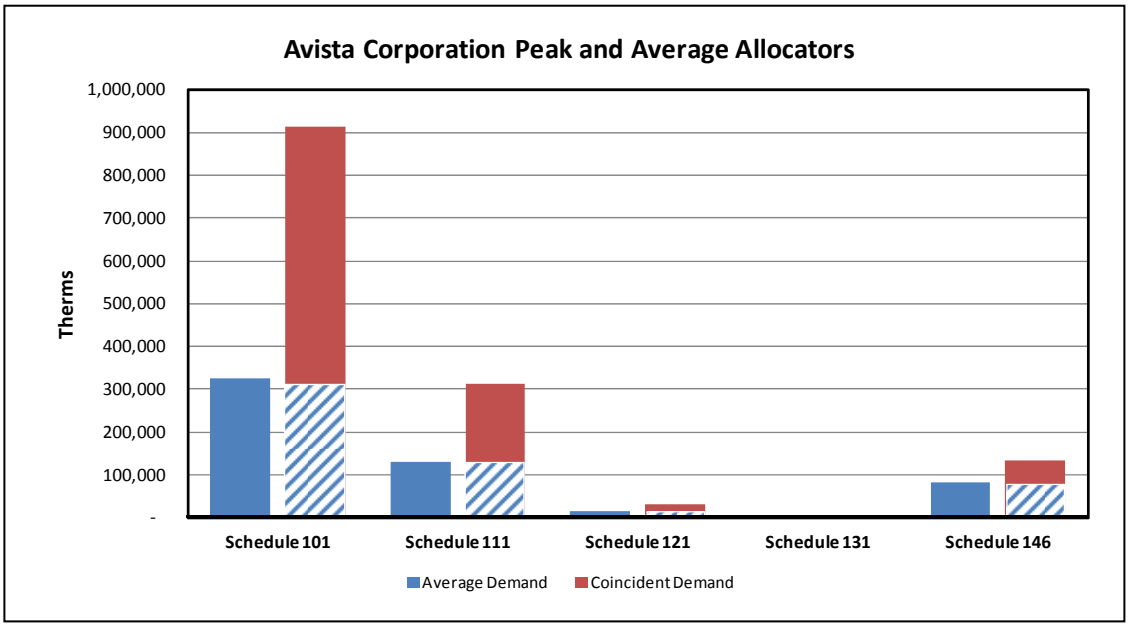


Diagram 2

As a rule, the Peak and Average method double counts the service classes' contributions to average demand, and the Company's Peak and Average method is no

exception. Because distribution systems are designed to meet the system peak demand, double counting average demand is inappropriate. Further, because average demand is simply the annual throughput, or usage, divided by the number of days in a year, the Company's Peak and Average method overstates the cost responsibility of customers with load factors higher than the system average, including the Schedule 146 class. This is shown in the following table comparing class Peak and Average allocators to class Coincident Demand allocators.

TABLE 1

Class Allocators –
Peak and Average vs. Coincident Demand

Class	Peak and Average %	Coincident Demand %
Schedule 101	62.84%	65.44%
Schedule 111	22.75%	22.33%
Schedule 121	2.32%	2.16%
Schedule 131	0.44%	0.42%
Schedule 146	11.65%	9.64%
Total	100.00%	100.00%

Correction to Avista's Natural Gas Cost of Service Study

Q. HOW DO YOU PROPOSE CORRECTING FOR THESE FLAWS IN THE COMPANY'S STUDY?

A. I have modified the Company's cost of service study by using a Coincident Demand allocator for distribution mains and regulator station equipment capacity related costs instead of the Peak and Average method currently used by the Company. I also propose that a portion of the distribution mains be classified and allocated on a customer basis.

There are advantages to using the Coincident Demand method over the Peak and Average method. First, the Coincident Demand method does not suffer from a double counting problem that sullies the Peak and Average 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 Peak and Average method, the Coincident Demand method is one of the allocation methods listed in AGA's Gas Rate Fundamentals.

Q. DOES THE COINCIDENT DEMAND METHOD ALLOCATE A PORTION OF DISTRIBUTION MAIN AND REGULATOR STATION EQUIPMENT COSTS ON AVERAGE USE (OR EQUIVALENTLY, ANNUAL USAGE)?

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

Q. WHAT ARE THE RESULTS OF THE COST STUDY USING THE COINCIDENT DEMAND METHOD TO ALLOCATE THE COSTS ASSOCIATED WITH DISTRIBUTION MAINS AND REGULATOR STATION EQUIPMENT AS WELL AS CLASSIFYING A PORTION OF MAINS COSTS AS CUSTOMER RELATED?

A. The results of the modified cost study are shown on my Exhibit No. BCC-3 at lines 10-13. The Coincident Demand method, as well as the inclusion of a customer component of main cost, is appropriate because it reflects how the distribution system is designed and therefore reflects cost causation.

Q. YOU STATE THAT THE COINCIDENT DEMAND METHOD REFLECTS COST CAUSATION BECAUSE IT REFLECTS HOW GAS DISTRIBUTION SYSTEMS ARE DESIGNED. HOW DO GAS COMPANIES DESIGN THEIR DISTRIBUTION SYSTEMS?

A. Gas distribution companies design and size their distribution systems based on the design day demand or the coincident peak demand requirements of its customers. The Company's design of its system allows it to offer firm uninterrupted service to all customers every day of the year, including the day the system peak day demand occurs. If the Company designed its system based on average day demands, then there may not be adequate capacity to meet the customers' coincident demands on the system peak day. The Company also designs it system to connect all customers to the system. As a result, a portion of main costs are related to length of mains attributable to the location of customers on the system. Accordingly, it is appropriate to classify and allocation a portion of main costs on a customer basis.

Q. WHY IS IT APPROPRIATE TO ALLOCATE THE COSTS OF DISTRIBUTION MAINS ON A CUSTOMER COMPONENT?

A. While it is true that a gas distribution system has to be sized to accommodate the design for critical peak day demands, it must <u>also</u> be designed to physically connect each customer's service with the city gate gas receipt points. Consequently, while peak requirements will influence the *diameter* of mains, the *linear feet* of mains (and total actual cost) will depend upon the location of customers on the system. As an illustration, more investment is needed to serve 10,000 customers at various different geographical locations each with a peak demand of 1 Mcf than one customer with a peak demand of 10,000 Mcf at a single location.

Q. WHAT IS YOUR RECOMMENDATION WITH RESPECT TO THE COMPANY'S PROPOSED COST OF SERVICE STUDIES FOR THE TREATMENT OF LOW PRESSURE DISTRIBUTION MAIN COSTS?

A. I recommend that the Company's cost of service studies allocate a portion of the cost of distribution mains on a customer component.

Q. HOW MUCH OF THE DISTRIBUTION MAIN COSTS SHOULD BE ALLOCATED ON A CUSTOMER COMPONENT?

A. I recommend that the cost of all distribution mains 2 inches and smaller be allocated to all classes based on the number of customers. This results in approximately 41% of total distribution main costs being classified and allocated to all classes on a customer basis. I have allocated the other 59% of total main costs on a Coincident Demand basis to all classes.

Q. IS YOUR PROPOSAL TO ALLOCATE A PORTION OF DISTRIBUTION MAIN COSTS ON A CUSTOMER COMPONENT IN THE COMPANY'S CLASS COST OF SERVICE STUDIES APPROPRIATE?

A. Yes. The Company allocated all capacity related distribution main costs on the basis of peak day demand and volume, or average demand. A significant portion of the Company's distribution main system is designed to move gas to the location of all of its customers on the system and is related to length of main, not demand or volume. Hence, a portion of the distribution main cost is driven by the location of customers on the system, and not the customers' peak day demands or annual volumes.

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 distribution 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 Company's response to NWIGU Data Request 2,2, Avista designs its natural gas systems to meet the peak day needs of its firm customers.

Q. IS THE COMPANY'S PROPOSAL TO USE THE PEAK AND AVERAGE METHOD IN ALLOCATING THE COSTS OF DISTRIBUTION MAINS AND REGULATOR STATION EQUIPMENT REASONABLE?

A. No. The Company's proposal fails to meet the cost of service principle of cost causation. The Peak and Average method is inappropriate for ratemaking in this proceeding because this method does not appropriately reflect how the capacity related costs associated with distribution mains, including both rate base and expenses, are incurred by the Company. The Peak and Average method allocates the capacity related costs associated with distribution mains and regulator station equipment partially on customer throughput. However, companies do not use total customer throughput or usage to design their distribution facilities, but rather use customer coincident peak demands. The Peak and Average method of cost allocation is inconsistent with cost causation on the distribution system. Therefore, allocation of distribution main and regulator station equipment capacity related costs using Peak and Average is inappropriate because cost allocation does not follow how those costs are actually incurred. As a result, the Peak and Average allocation method creates an unbalanced allocation of distribution costs among customer classes.

Q. CAN YOU PROVIDE AN ILLUSTRATION THAT EXPLAINS WHY ALLOCATING DISTRIBUTION MAIN AND REGULATOR STATION EQUIPMENT COSTS USING THE PEAK AND AVERAGE ALLOCATION METHOD RATHER THAN THE COINCIDENT DEMAND METHOD CREATES AN UNBALANCED ALLOCATION OF COSTS AMONG CUSTOMER CLASSES?

A. Yes. I will focus on capacity related 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 Peak and Average 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 Peak and Average method, the allocated cost for peak day demand capacity is significantly higher for the Company's higher load factor customers, specifically the Schedule 146 class, than it is for lower load factor customers. In other words, under the Peak and Average allocation method, customer classes that more efficiently utilize the distribution 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 Exhibit No. BCC-4.

As shown on this exhibit, under Column 5, lines 1-5, I reflect the Peak and Average allocation of the cost of capacity related 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 cost each customer is allocated for this annual capacity. Under Column 5, lines 7-11, I provide the same calculation using a Coincident Demand allocation of distribution net plant cost.

Using a Peak and Average 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 are allocated a significantly below system average per unit cost, while high load factor customer classes are allocated significantly more than the average net plant cost on a per unit of peak day demand basis. However, allocating the Company's 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 are allocated 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 Peak and Average 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 customers (Schedule 146 class) are allocated significantly more for that capacity entitlement than do low load factor customer classes when net plant costs are allocated on the basis of the Peak and Average method.

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

A. No. Another illustration of how the Peak and Average allocation method does not properly allocate distribution main capacity costs across customer classes is to compare the Peak and Average 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 my Exhibit No. BCC-5. The system peak day capacity allocated to each class under Peak and Average 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, the Schedule 101 class has a shortfall in capacity as compared to the actual system capacity needed on the system peak day to meet its supply requirements. The Schedule 111, Schedule 121, Schedule 131, and Schedule 146 classes are over allocated system capacity using the Peak and Average 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 COMPANY'S DISTRIBUTION SYSTEM?

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.

Because 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 Company. Further, the cost allocation method should be consistent with cost

causation. Because distribution mains and regulator station equipment are designed to meet the demands of customers and not their gas throughputs or usages, allocating the costs of the distribution system based on demands is appropriate. A utility's distribution investments must meet its customers' demands. A utility incurs the cost to construct and operate distribution mains and regulator station equipment to meet its customer peak day demands. Therefore, peak day demand is an appropriate cost allocation method for allocating capacity related capital costs and expenses, because 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 National Association of Regulatory Utility Commissioners ("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 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. DOES THE COMPANY'S DISTRIBUTION SYSTEM 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 demand, customers use the distribution 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 distribution 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 Exhibit No. BCC-5.

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

If the distribution 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.

Using the Peak and Average allocation method to allocate capacity related costs based on perceived benefits resulting from year round use of the Company's distribution system is not based on cost causative factors. 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 distribution system's engineering and an understanding of the drivers that determine a utility's costs. The Coincident Demand allocation method best represents cost allocation of capacity related costs on the Company's distribution system.

Accurate Price Signals

Q. DOES ALLOCATING DISTRIBUTION MAIN AND REGULATOR STATION EQUIPMENT COSTS IN PART ON ANNUAL VOLUME OR ANNUAL THROUGHPUT ENCOURAGE THE EFFICIENT UTILIZATION OF THE GAS DISTRIBUTION SYSTEM?

A. No, it does not. The efficient utilization of the distribution 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 distribution 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. IS THE USE OF THE COINCIDENT DEMAND METHOD TO ALLOCATE CAPACITY RELATED COSTS OF DISTRIBUTION MAINS AND THE RESULTING PRICE SIGNALS FROM SUCH AN ALLOCATION CONSISTENT WITH THE WUTC COMMITMENT TO LEAST COST PLANNING IMPLEMENTED THROUGH UTILITIES' INTEGRATED RESOURCE PLANS?

A. Yes. The WUTC invests considerable resources in ensuring that natural gas local distribution companies ("LDCs") make least cost investments through the preparation and review of integrated resource plans. The Company plans its distribution main system to meet the firm peak day demands of its customers. Thus, peak day demand best reflects cost causation on the Company's system. When ratemaking ignores cost causation by allocating a significant portion of distribution main cost on a volumetric basis, ratemaking undermines least cost planning, resulting in inaccurate price signals to customers .

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 distribution 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 Company's current proposal for allocating distribution-related costs using the Peak and Average allocation method, if a customer took the initiative to reduce peak day demand or improve its load factor and the distribution costs were partially allocated on volume, this customer's allocated share of the distribution 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 distribution 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 bypass of the utility, increasing unit cost on the system.

In contrast, if the Company allocated the cost of distribution mains and regulator station equipment on peak day demands, then this customer's allocated share of the costs associated with distribution 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 distribution-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 distribution system, and improve the economic utilization of the utility's assets.

Q. WHAT IS YOUR RECOMMENDATION WITH RESPECT TO THE ALLOCATION OF DISTRIBUTION MAIN REGULATOR STATION EQUIPMENT COSTS IN THE COMPANY'S COST OF SERVICE STUDY?

A. It would be more appropriate to use the Coincident Demand allocator to allocate the distribution main and regulator station equipment capacity related costs of the Company. Because gas distribution systems are designed based on peak day demands as well as on the location of customers, the best cost-causation allocation factor for

distribution costs among customers is peak day demands as well as classifying and allocating a portion of main costs on a customer component. Therefore, I recommend that class coincident peak day demands and not the Peak and Average allocator be used to allocate the costs of distribution mains and regulator station equipment. I also recommend that a portion of distribution main capacity cost be classified and allocated on a customer basis.

Revenue Allocation

Q. WHAT IS YOUR RECOMMENDATION WITH RESPECT TO REVENUE ALLOCATION?

A. Due to the flaws in the Company's cost of service study, I recommend that the Company's revenue deficiency be allocated based on the result of my modifications to the Company's class cost of service study. As explained earlier in my testimony, my natural gas cost of service study more accurately reflects costs causation. Because the Company designs its system to meet firm class coincident demands as well to ensure that all customers are connected to the distribution main system, I have allocated capacity related costs based on coincident demand and classified and allocated a portion of mains costs using a customer component. The coincident demand allocator coupled with a customer component of mains costs more accurately reflects how the Company incurs distribution main costs.

The results of my corrections to the Company's cost study are shown on line 12 of Exhibit No. BCC-3. As a result of my revisions to the Company's cost of service study, the Schedule 101 class receives an increase of 17.9% while all other classes should receive rate decreases. As a result, I propose that the Schedule 101 class receive an increase of 6.5% while all other classes' rates are maintained at

current rate levels. This will limit the rate impact to the Schedule 101 class, keeping their increase at less than 1.5 times the system average increase of 5.1% and recognize the principle of gradualism.

It should be noted that the Company's requested 5.1% increase in system margin is for 2017. To the extent that the Commission approves the Company's request for an additional increase in margin of 1.8% in 2018, based on the results of my class cost of service study, any increase in 2018 should be recovered from the Schedule 101 class while all other rate classes' rates are held at current levels.

To the extent that the Commission accepts NWIGU's and other parties' adjustments to the Company's proposed revenue increases, the rate spread would be adjusted accordingly.

Additional Transportation Option

Q. DO YOU HAVE OTHER RECOMMENDED MODIFICATIONS TO AVISTA'S RATE SCHEDULES?

A. Yes. I recommend adding a transportation option for smaller commercial and industrial customers. This will give smaller customers more flexibility in how they operate their facilities.

Q. DO SMALLER COMMERCIAL AND INDUSTRIAL CUSTOMERS CURRENTLY HAVE THE OPTION TO TRANSPORT ON AVISTA'S SYSTEM?

A. No. Transportation Schedule 146 is only available for larger commercial and industrial customers--those transporting more than 250,000 therms per year. This precludes many customers from purchasing their own gas and transporting that gas on Avista's system. This arbitrary threshold limits customer choice and opportunities for smaller customers to save money and operate more efficiently.

Q. DO OTHER WASHINGTON LDCS HAVE TRANSPORTATION OPTIONS FOR SMALLER COMMERCIAL AND INDUSTRIAL CUSTOMERS?

A. Yes. Puget Sound Energy, for example, has several transportation schedules for different sizes of customers.

Q. WHAT IS YOUR SPECIFIC RECOMMENDATION?

A. I recommend that Avista create a new rate schedule that gives smaller commercial and industrial customers the ability to transport customer owned gas. This should be available to all commercial and industrial customers, with no minimum gas usage requirement.

Q. HOW WOULD THE TRANSPORTATION SCHEDULE BE PRICED?

A. The rate schedule should be designed to protect the Company's margin, while giving smaller commercial and industrial customers more choice in how they purchase gas services. Allowing smaller customers the ability to purchase commodity from third parties, while preserving the Company's margin, is in the public interest.

Q. DO YOU RECOMMEND CHANGING THE THRESHOLD TO TRANSPORT ON SCHEDULE 146?

A. No. I recommend leaving the threshold to transport on Schedule 146 at 250,000 therms per year. The transportation rate schedule for smaller commercial and industrial customers should be completely separate from Schedule 146.

Q. DOES THIS CONCLUDE YOUR RESPONSE TESTIMONY?

A. Yes, it does.

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