BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE APPLICATION OF QUESTAR GAS COMPANY TO INCREASE DISTRIBUTION RATES AND CHARGES AND MAKE TARIFF MODIFICATIONS	Docket No. 16-057-03

DIRECT TESTIMONY OF

AUSTIN C. SUMMERS FOR

QUESTAR GAS COMPANY

July 1, 2016

QGC Exhibit 4.0

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I. INTRODUCTION

Q. Please state your name and business address.

A. Austin C. Summers, 333 South State Street, Salt Lake City, Utah 84111.

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

A. I am employed by Questar Gas Company (Questar Gas, QGC or Company) as the Supervisor of Regulatory Affairs. I am responsible for cost allocation, rate design, gas cost adjustments, and forecasting. My qualifications are detailed in QGC Exhibit 4.1.

Q. Were your attached exhibits QGC Exhibit 4.1 through QGC Exhibit 4.16 prepared by you or under your direction?

A. Yes.

Q. What general areas will your testimony address?

A. I will discuss several matters including (1) the Company's class cost-of-service (COS) study; (2) the Company's rate design proposal; (3) proposed changes to the Company's Basic Service Fee; and (4) the proposed allowed revenue under the Conservation Enabling Tariff (CET).

II. INTERIM STUDIES

Q. Did you participate in the interim studies required by the Partial Settlement Stipulation approved in the order in Docket No 13-057-05?

A. Yes. Several parties met with the Company in late June 2014 to identify the items to be studied. Subsequently, interested parties met three times and discussed the following issues:

August 13, 2014

- FS class load factor requirement
- First of month prices vs Weighted-Average-Cost-of-Gas (WACOG) prices
- Dividing the TS Class by usage
- IS Class Qualifications

October 21, 2014

- Rate Design of a split TS class
- Purpose of the IS class
- IS class customer behaviors and statistics
- Theoretical seasonal (summer) rate

January 13, 2015

- Splitting IS class based on load factor or usage
- Effects/benefits of the IS class on other classes
- Calculation of the annual admin fee
- Aggregation of meters

Q. Did the interested parties reach any agreement?

A. No. The meetings were collaborative and the interested parties gained an increased understanding on each of these issues, but there was no final consensus.

III. CLASS COST-OF-SERVICE STUDY

A. Class Cost of Service Studies

Q. Would you please explain the approach that is used for the COS study?

A. Yes. I performed a complete COS study for the General Service (GS), Firm Sales (FS), Interruptible Sales (IS), Transportation Service (TS), Firm Transportation (FT-1), and Natural Gas Vehicle (NGV) rate classes. It should be noted that the one Municipal Transportation (MT) customer is a transportation customer and is included in the TS class for the COS study.

B. Allocation Factors

Q. Please describe the allocation factors used in the COS study?

A. The Company uses 29 allocation factors in the COS study. QGC Exhibit 4.2 provides a brief description of each allocation factor. I will describe the Distribution Plant Factor, the Distribution Throughput Factor and the Peak-Day Factor in greater detail.

C. Distribution Plant Factor Study

Q. Please describe the Distribution Plant Factor Study.

A. The Distribution Plant Factor Study is an analysis of distribution plant installed to provide service to customers in each rate class. The types of distribution plant analyzed are meters, regulators, service lines and small diameter (6 inches and smaller in diameter) intermediate high pressure (IHP) main lines. The Distribution Plant Factor Study uses a non-proportional stratified random sample of active meters to measure the average amount of plant installed for each meter type. In response to recommendations from the Cost-of-Service and Rate Design Task Force established in Docket No. 02-057-02, larger capacity meters are sampled at much higher rates than smaller capacity meters. Studies of this nature have been a central aspect of the Company's COS studies since the mid-1960s.

Q. Please describe the changes to the Distribution Plant Factor Study since the last rate case.

A. The sample described above is only used in the GS class, where the bulk of the customers reside. In all other classes, we measured every active customer. We also updated the current cost levels for each type of facility in the analysis. Finally, we used the book values as of December 31, 2015 for each plant category to keep the various aspects of the analysis in balance and matched to actual book value.

Q. How did you determine the amount of plant required to serve customers?

A. We evaluated each meter selected in the sample using information from the Company's Customer Care and Billing (CC&B) system, engineering files, and the Graphical Information System (GIS). We determined the costs to reproduce the meter set, service line and the portion of main line attributable to the sampled meter based on current cost estimates.

Q. How did you determine the amount of main line attributable to the sampled meters?

A. The study examines the main line directly connected to the service line serving a sampled meter. The study examines the main line within 1,000 feet of a service-tap point. Usually this translates into 500 feet in each direction. We record the length of each size of main line within the 1,000 feet, along with the number of service-line taps within the 1,000 feet. QGC Exhibit 4.3, page 1, shows the map from the GIS for an individual sampled meter. The map for this sampled meter, designated with a star, includes the measurements for main (1,000 feet of two-inch main line, with 21 service taps), and service line (89 feet of one and one-fourth-inch service line). We then price the main line attributable to this meter (1,000 feet/21 taps, or 48 feet) at current cost.[1] The cost associated with the identified main line divided by the number of meters on the identified service lines is included in the Distribution Plant Factor Study.

Q. Why did you select 1,000 feet for the main line measurements?

A. We selected 1,000 feet as the measured length in order to capture the character of the area surrounding a customer premises, including street crossings. Experience has shown that longer measurement lengths have a tendency to include dissimilar neighborhoods while shorter lengths tend to capture too few or no intersection crossings. Also, the effort required to perform this analysis increases substantially as the measurement length

[1] The only exception is that if main with a diameter greater than six inches is found in the sample, the excess cost above the cost of six-inch main line is excluded. These excess costs are allocated using the Distribution Throughput Factor that is discussed later in my testimony.

increases. One thousand feet produces reliable information regarding the size of mains installed in the vicinity of a customer, as well as the local density of customers attached to the same main. Additionally, the use of 1,000 feet is consistent with the methodology employed since the early 1980s.

Q. How did you determine the service line cost?

A. We recorded the length and size of service line for each sampled meter. For the sampled meter shown on QGC Exhibit 4.3, page 1, the service line associated with this meter was 89 feet of one and one-fourth-inch pipe. The length of service line is then multiplied by current cost for the identified pipe size.

Q. How did you determine the meter and regulator costs?

A. For each active meter installed in the system, we identified a comparable model. We determined the current cost for the comparable model, along with standard ancillary facilities. We then assigned these current cost amounts to the sampled meters.

Q. How did you establish the current cost levels?

A. Distribution Engineering provided the current cost amounts. The costs for IHP main and service lines are based on the actual pricing in effect for 2015, weighted by the footage installed in 2015. The costs for high-pressure service lines are based on recent actual projects adjusted to 2015 price levels. The current costs for meter sets are based on current engineering estimates for standard meter sets of like size. QGC Exhibit 4.3, page 2, lists the cost data for main, service line and meter sets used to price the facilities identified through the sample measurements.

Q. How is the sample used to establish the small-diameter IHP main investment by rate class?

A. QGC Exhibit 4.3, page 3, shows the calculation of plant investment for small-diameter mains for each rate class. Column C, lines 1-29, shows the average investment in mains by installed meter capacity rating at current cost. We multiply these average values by the number of active meters in each rate class. The product of these calculations is shown in columns D through I, lines 1-29. The total for each rate class is shown on line 30. The sum of the values on line 30 is shown in column J. The total in column J, line 30, represents the total main-line investment at current cost attributable to the customers receiving service under the rate classes included in the COS study. The next step is to proportion this total to match the book investment for small-diameter mains (column K, line 31). The percentage reduction required to proportion the unadjusted total investment (column J, line 31) to equal the book investment is then applied to each line of column K to arrive at the adjusted class totals shown on line 31.

Q. How is the sample used to establish the service-line and meter/regulator investment by rate class?

A. QGC Exhibit 4.3, page 4, shows the calculation of plant investment for service lines for each rate class. QGC Exhibit 4.3, page 5, shows the calculation of plant investment for meters/regulators for each rate class. The service-line and meter/regulator investment by rate class is calculated the same way as described above for small diameter IHP mains.

Q. Why are the plant investment values, calculated at current cost, proportioned down to match book cost?

A. We take this step as part of the study in order to ensure that no component of plant is given too much weight when the three components of the Distribution Plant Factor Study are combined.

Q. What costs are allocated using the Distribution Plant Factor?

A. The costs allocated using this factor include: 1) the rate-base related costs, including return, taxes and depreciation; 2) operation and maintenance expenses related to distribution activities; and 3) a portion of administrative and general expense.

Q. What is the result of the Distribution Plant Factor Study?

A. The results are shown in QGC Exhibit 4.3, page 6, columns B-H, rows 5-7. The Distribution Plant Factor Study shows that 98.04% of distribution facilities are installed to serve GS customers, 0.35% are installed to serve FS customers, 0.07% are installed to serve IS customers, 1.25% are installed to serve TS customers, 0.26% are installed to serve FT-1 customers, and 0.03% are installed to serve NGV customers.

D. Distribution Throughput Factor Study

Q. Please describe the Distribution Throughput Factor Study.

A. The Distribution Throughput Factor Study develops an allocation factor based on the commodity volumes delivered through the IHP distribution system. The factor is developed by identifying customers that are not connected to the IHP system and then subtracting the Dths delivered to those customers from the commodity-throughput numbers.

Q. What costs are allocated using the Distribution Throughput Factor?

A. The costs associated with large-diameter IHP main lines (greater than 6 inches in diameter) are allocated using the Distribution Throughput Factor. These facilities are generally sized for more than just local delivery requirements and, therefore, are excluded from the Distribution Plant Factor Study. The Distribution Throughput Factor is based on throughput quantities that reflect the underlying purpose of these facilities. Large-diameter main lines installed within the IHP system are typically designed to move gas from the high-pressure feeder-line system to the smaller distribution lines. These facilities benefit all customers connected to the IHP system. Customers that are not connected to the IHP system receive no benefit from these facilities and are therefore allocated none of these costs. The booked cost of the large-diameter main lines is used to determine the portion of the distribution cost associated with these facilities.

Q. What are the results of the Distribution Throughput Factor Study?

A. The factor developed from the study is shown on QGC Exhibit 4.4 on line 6, columns B through H. The study shows on line 6 that rate classes other than GS, such as the Transportation Service rate class, have very few customers connected to the IHP distribution system, while in the case of the GS class, nearly all of the customers are served from the IHP system. As a result, transportation customers are allocated a relatively small portion of costs associated with large-diameter mains.

E. Peak-Day Factor Study

Q. What is the Peak-Day Factor Study?

A. The Peak-Day Factor Study attributes responsibility for the design peak day between the rate classes. This factor is used to allocate costs related to the coincident peak demand of customers.

Q. Will you please explain the history of allocating some of the peak-day factor to interruptible customers?

A. Yes. The Commission's order in Docket No. 07-057-13 said that, "we are persuaded by the Division that interruptible customers contribute to peak demand and therefore these customers should receive some allocation of peak demand in the company's next cost-of-service study." In the Company's 2009 General Rate Case, it modified the Peak-day Factor Study to allocate the costs associated with the portion of the design peak day that exceeds the average peak requirements of the firm customers to interruptible customers.

Q. What is the Company's proposal regarding the inclusion of Interruptible customers in the Peak-Day Allocation Factor in this case?

A. The Company does not believe that interruptible customers should be assigned peak demand responsibility. Arguably, an interruptible customer benefits from being on a system built to handle a peak event because peak days are infrequent and, consequently, interruptions are also infrequent. However, in an actual peak day event, the interruptible customer will be curtailed and will not be contributing to the costs incurred in the peak day. If interruptible loads are included in the peak-day study, there is a risk that an excessive level of cost will be allocated to interruptible customers.

Q. What design peak demand is used in developing the Peak-Day Factor?

A. I have used the 2017 design peak day demand from the 2016 Integrated Resource Plan (IRP) as the basis for this study. The Utah design peak day demand, updating for transportation contracts, for 2017 is projected to be 1,739,789 Dth.

Q. How is the Peak-Day Factor calculated?

A. The first step is to determine the portion of the design peak day demand that can be assigned directly to specific rate classes. These are the TS, FT-1 and NGV rate classes. The contract demand attributable to customers served under the FT-1 and TS rate classes is directly assigned. The total firm-contract demand for these two classes is 213,201 Dth. The NGV class is assigned 2,033 Dth of peak demand based on the average use per work day. The balance of the design peak day attributable to the GS and FS classes is 1,277,209 Dth. These calculations are shown on QGC Exhibit 4.5, lines 1 and 2.

Q. How is the 1,277,209 Dth of design peak day apportioned between the GS and FS rate classes?

A. An analysis of the population for these classes was performed using data from the Company's billing system to establish the proportionate responsibility for each class. This study involved estimating the contribution to peak for customers grouped by weather zones within the two remaining rate classes. The total estimated design peak day demand was calculated using individual customer data and was then summed by rate class. The remaining design peak day demand is allocated between these two classes based on their share of the calculated peak.

Q. What is the result of the Peak-Day Factor Study?

A. The results are shown on line 2 of QGC Exhibit 4.5. The GS class is responsible for 83.5% of the design peak, the FS class is responsible for 2.1%, the transportation classes are responsible for 14.3% and the NGV class is responsible for .14%.

Q. Are the results of the Peak Day Factor Study consistent with your expectations?

A. Yes. I have also shown on QGC Exhibit 4.5, line 4, the resulting load factor for each of the firm-sales classes. This shows that the GS class has an average load factor of 22.5% and the FS customers have an average load factor of 39.6%.

F. Cost-of-Service Results

Q. Please describe the results of the COS study.

A. QGC Exhibit 4.6, page 1 shows the results of the COS study. Lines 1-49 are a summary of the revenues, expenses and rate base allocated to the different rate classes using the factors explained above. Lines 50 and 51 show the Rate of Return and Return on Equity by class before the deficiency. Line 53 shows how the deficiency needs to be assigned to each class in order to avoid inter-class subsidies. Line 54 is the FT-1 COS adjustment that I will discuss below. Line 55 represents the total revenue requirement (COS with deficiency). Line 57 shows the revenue that needs to be collected from each class after giving each class a credited share of the general related revenues.

Q. Is the Company proposing that any rate classes pay less than their full cost of service?

A. The Company only recommends that the FT-1 class be less than full cost in order to prevent these customers from bypassing the Questar Gas distribution system.

Q. Is there a way to determine if a class is paying its full cost?

A. Yes. Using forecasted revenues, we have calculated that the return on rate base for 2017 would be 6.47% without any of the additional revenue requested in this case. Exhibit 4.6, page 2, line 2 shows the return on rate base provided by each class. Line 6 shows a metric called the rate of return index. This metric shows how close a class is to paying its full cost. If the rate of return index is lower than one, the class is paying a return that is lower than 6.47%, and hence, is providing revenue that is below full cost. If the number is higher than one, the class is paying more than full cost. Additionally, line 3 shows how much the class revenue would have to change for the class to pay exactly 6.47%.

Q. Are you proposing to change rates by the percentages shown on line 5?

A. No. This analysis simply reviews where the rate classes are, without any increase in revenue. The analysis is limited to existing rates, without the revenue deficiency and the adjustment from the subsidized FT-1 class. Lines 8 – 10 show the adjustments that are made to each class to reach the total revenue requirement requested in this case, and line 13 shows the percentage increases to the DNG portion of rates in each class.

Q. Why are some classes seeing a larger increase than others?

A. The rates we have calculated move each class to full cost. Classes that are further from full cost have a higher increase. Since the last general rate case, the Company has continued to see large FS customers move to the TS class, where they are relatively small customers as compared to others in the TS class. Costs that are allocated to each class are highly affected by the number of customers in the class and the costs that are associated with those customers. As large customers leave the FS class, it leaves smaller FS customers to pay the remaining costs. In the TS class, new customers brought new costs to a class that was being subsidized by other classes. Customers changing classes, combined with moving the classes to full-cost rates is the cause of larger increases in some classes than others.

Q. Do you believe the proposed increase to the TS class rate class should be made gradually?

A. No. The principal of gradualism is often mentioned as a way to reduce rate shock to customers who may be moved to a higher rate. However, while rate stability is an important principle in ratemaking, it is not the most important principle. It is more important that rates are fair and equitable. In his book, Principles of Public Utility Rates, James Bonbright mentions eight criteria to create a desirable rate structure. Of the eight, he lists three as being "primary, not only because of their widespread acceptance but also because most of the more detailed criteria are ancillary thereto."[2] The three criteria he lists as primary are:

1. Fairness of the specific rates in the apportionment of total costs of service among the different consumers.
2. Effectiveness in yielding total revenue requirements under the fair-return standard.
3. Efficiency of the rate classes and rates blocks in discouraging wasteful use of service while promoting all justified types and amounts of use.

Criteria two can be obtained even with inter-class subsidies, but the fairness and efficiency objectives fail when subsidies exist.

Q. Does the inter-class subsidy to the TS class cause problems?

A. Yes. Having TS rates that were below cost-of-service, coupled with the low market prices of gas has allowed large customers in the GS and FS class to arbitrage the rates and take advantage of the subsidy in the TS class. This inter-class subsidy has been in place for nearly three decades. Because the Company has "percentage increased" rates in recent cases, little if any improvement in the inter-class subsidy has occurred. These customers have enjoyed over two decades of "gradualism" (i.e. lower than full cost-of-service). It is time to bring the TS rate class to full cost of service.

Q. Has there been any recent movement in getting the TS class closer to a full cost rate?

A. Yes. As part of the settlement in the Company's last general rate case, customers in the TS class took two partial steps toward full cost rates. The first step occurred in March

[2] Bonbright, James C. Principles of Public Utility Rates. New York: Columbia UP, 1961. Print.

2014 when these customers were moved part of the way to full cost. Then in the fall of 2015, the rate was adjusted to to bring the TS class still closer to full cost. Even with these steps, TS customers are currently only paying about 53% of their full cost of service (QGC Exhibit 4.6, page 2, line 6, column F).

Q. Has the Company informed the TS customers of its intentions to move to a full cost rate?

A. Yes. One of the arguments used by proponents of gradualism is that transportation customers would be subject to rate shock if rates suddenly went to full cost. Accordingly, for the last few years, the Company has made efforts to inform these customers of the Company's intentions to move the class to full cost.

Q. How has the company informed transportation customers of its intentions?

A. Every fall, Questar Gas holds a "customer meeting" where old and new transportation customers can come and learn about price trends, new policies, upcoming regulatory issues, etc. At each of these meetings, Questar representatives have informed customers that rates would be proposed to move to full cost in the next general rate case. These meetings are well attended and far-reaching. Exhibit 4.7, page 1 is a slide from a presentation given at a customer meeting on September 16, 2014. Exhibit 4.7, page 2 is a slide from a presentation given at a customer meeting on September 15, 2015. A special customer meeting was held on February 28, 2014 to educate transportation customers on the results of the recently completed rate case. Exhibit 4.7, page 3 is a slide from this meeting. In addition to the customer meetings, Questar has opportunities to give presentations at meetings for groups such as the Utah Association of Energy Users (UAE), where attendees are informed of the Company's plans. Exhibit 4.7, pages 4-6 are slides from a presentation given to the UAE on February 18, 2016. Finally, given that the Company has proposed to move TS rates to cover the full cost of service in the last several rate cases, intervening TS customer groups who have previously argued for gradualism are well aware of the Company's plans to implement full cost rates in this case.

Q. Could a move to full-cost rates now reduce rate shock in the future?

A. Yes. Exhibit 4.8 shows the first of month price TS customers have historically paid for natural gas commodity, as well as current forecasts of a gradual increase in gas prices over the coming years. As the chart shows, commodity costs are near a 10 year historical low, which directly leads to TS customers saving on overall energy costs. The low energy prices these customers are enjoying will more-than offset the proposed increases in this case. Waiting until a future date to make the move to full cost, when commodity prices are higher, could lead to more rate shock than if the move to full-cost happens now.

IV. RATE DESIGN

Q. Please summarize your testimony of how the Company's rate design proposals are developed.

A. The Company uses functionalization of costs and cost curves. I will discuss each below, and I will describe the Company's proposals for basic service fees. I will demonstrate that declining block rate designs coupled with graduated basic service fees are effective rate design components for matching the cost to serve individual customers.

A. Functionalization of Costs

Q. Will you please explain the methodology used to design the proposed rates?

A. The first step in the rate design process is to categorize the components of the COS (O&M expenses, depreciation, taxes, and return on rate base) into four functional categories. The categories used are:

1. **Customer Costs:** Those costs that are driven by the number of customers served. While these costs are primarily customer-related, they frequently increase with the size of the load being served.
2. **Demand Costs:** Those costs that are driven by the design peak day requirements of firm customers.

3. **Distribution Plant Costs:** Those costs that are related to the meter, service line, and small diameter main associated with each customer.

4. **Throughput Costs:** Those costs not specifically assigned to the customer, demand, or Distribution Plant categories.

B. Development of Cost Curves

Q. Why does the Company rely on cost curves in its rate design?

A. Cost curves are a graphical representation that show the relationship between the costs and the usage for each customer within a class. Understanding this relationship helps the Company design rates that reduce intra-class subsidies by accurately assigning costs to those customers that cause the costs.

Q. How are cost curves developed?

A. Though the curves are a graphical tool, they are derived by analyzing very granular customer-specific cost and usage data. Two data points are needed for each customer in a class; historical usage and share of the functionalized costs on a per Dth basis. Once these two data points are calculated for each customer, the relationship can be plotted on a chart as shown in Figure 1 below. The green cost curve is then fit to these points using regression.

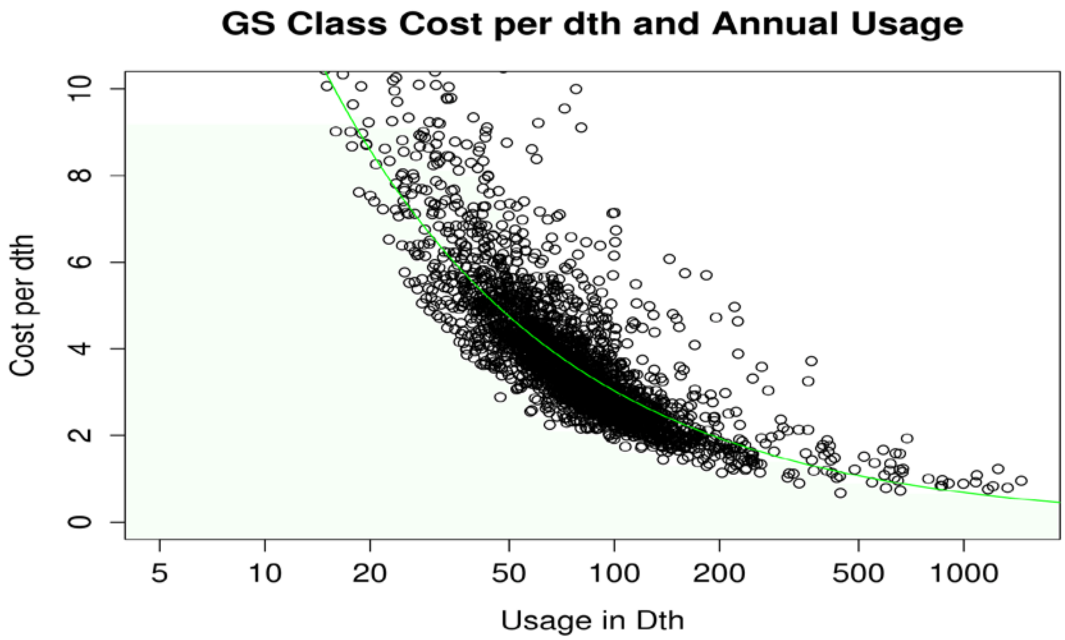

Figure 1

Q. How do you determine each customer's share of the functionalized costs?

A. The customer-specific costs for each of the four functional categories are determined differently, as explained below.

1. **Distribution Plant Costs**: We gather the same information that was used in the cost-of-service study for each customer, including the cost of each customer's meter, service line, and small diameter main. We use the plant cost for each customer to calculate each customer's proportionate share of the functionalized distribution plant costs.
2. **Demand Costs**: Using historical usage data for each customer, we calculated a linear regression slope and intercept for each customer. This gives us a formula to estimate how much gas a customer will use on a peak day. We use the peak day usage to calculate each customer's proportionate share of the functionalized demand costs.
3. **Customer Costs**: We divided all of the functionalized customer costs by the number of customers in each class.

4. **Throughput Costs**: We use each customer's usage to determine its proportionate share of the throughput costs.

We sum each of these four costs to provide the total cost to serve the customer. We divide this cost by the customer's usage to determine the cost per decatherm shown on the x-axis of the chart.

Q. What happens after you have calculated the cost curve?

A. We design rates for each class using a mix of basic service fees, demand charges, seasonal differentials, block breaks, and volumetric rates so that the revenue from each customer will be as close as possible to the costs the customer causes. The revenues of each customer can be charted similarly to the costs to produce a revenue curve. We can then compare the cost curve and the revenue curve. When the revenue curve deviates from the cost curve, the customer at that given usage level is either paying more than or less than the cost of the service they are receiving. The goal of good rate design is to match the cost and revenue curves as closely as possible in order to minimize intra-class subsidies. Exhibit 4.9, pages 1-4 show the cost and revenue curves for each class.

Q. Does the Company have an objective way to ensure the cost and revenue curves are as close as possible?

A. Yes. The Company has developed an algorithm that optimizes the rates for each class. The algorithm solves for block breaks and volumetric rates that provide the least variation between the cost curve and the revenue curve.

Q. Are you proposing a change in the block breaks for any classes?

A. Yes. The optimization process showed that new block breaks could reduce variance between the revenue and cost curves. Changing the block breaks affects the collection of revenue from customers of different size. Using the optimal block breaks instead of the existing breaks is one way that intra-class subsidies are reduced.

Q. The GS class still has one block break but it occurs at 6.5 Dth instead of 45 Dth. Why are you recommending such a significant change?

A. Two factors caused the change. First, and most significantly, the new blocks were optimized using very granular data. Neither the data nor the optimization algorithm have been available until recently and they greatly improve the accuracy of the calculation. Second, the 45 Dth break was first designed when usage per customer was significantly higher than it is today. In 1980, residential use per customer was about 179 Dth. At the end of 2015, the typical residential customer was using only 80 Dth each year. While the 45 Dth may have been an appropriate block break when customers were using more gas, it is no longer optimal.

Q. Could the rate design be adjusted to further reduce variance between the cost and revenue curves?

A. Possibly, but I do not recommend any further adjustment. The work we have done to design these rates uses detailed customer information that could theoretically be used to design different rates for every individual customer. However, most customers in a class have very similar usage patterns and costs. Keeping these customers in large classes with the proposed rate design keeps the rates simple to understand and administer while also minimizing intra-class subsidies. Exhibit 4.10 shows a heat map of the customers in the GS class. The red area shows a high density of customers with 75-100 customers per dot. The blue dots contain 1-25 customers per dot. The chart also shows that about 75% of the GS customers fall between the two vertical lines. This is also the point where the cost curve and the revenue curve are most closely aligned. In other words, the proposed rate design is very accurate for most of the customers and sufficiently reduces intra-class subsidies.

Q. Does the proposed rate design lessen the intra-class subsidy in the GS class?

A. Yes. Figure 2 below shows how the rate design is improved by using the optimized rates with a 6.5 Dth block. The green cost curve is the same on both charts, but the revenue lines are different. The red revenue curve on the right uses the proposed block break of

6.5 Dth, while the chart on the left uses the current 45 Dth break. When the red revenue curve is closer to the green cost curve, intra-class subsidies are reduced.

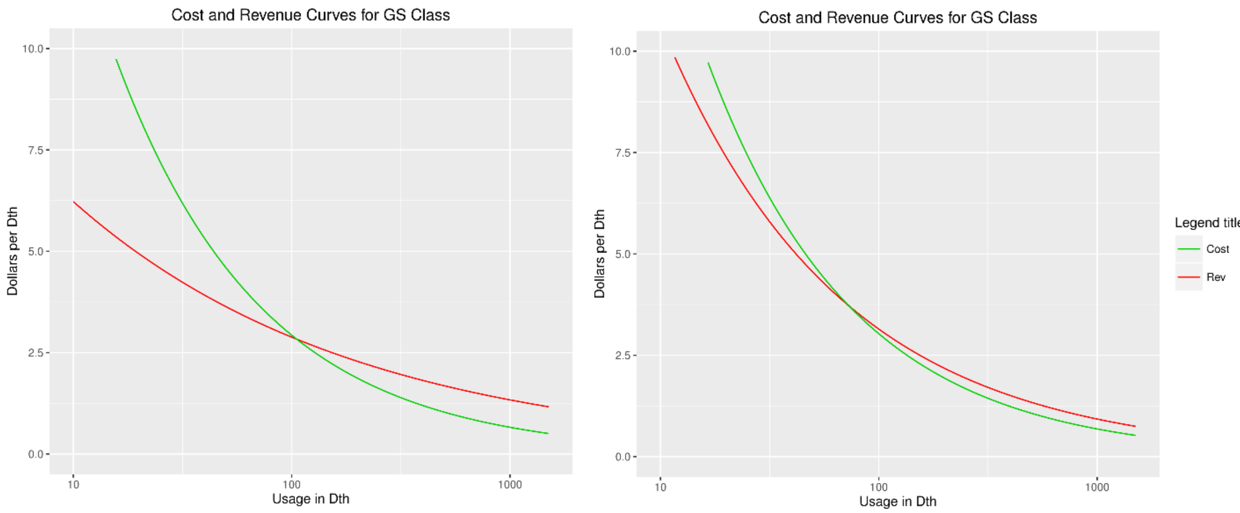

Figure 2

Q. What effect does a lower block break have on the bill of a typical GS customer?

A. The rate increase to a typical customer in this case is $39.72 on an annual basis, as shown in Exhibit 4.15, page 1. This increase is caused by both an increase in revenue requirement, and the proposed change in block breaks. Exhibit 4.15, page 2 shows that the annual increase for a typical customer due to only the increase in revenue requirement is about $14.31. The remaining $25.41 is due to the change in block breaks. Though the new block breaks do increase the typical bill, it is not an unreasonable increase to establish optimal rates that significantly reduce intra-class subsidies. Also, the $39.72 increase represents a 5.84% increase to the typical customer, which is a smaller percentage increase than what is proposed in any other class (see Exhibit 4.6, page 2, line 13).

Q. Have you optimized the blocks and rates for the FS, TS, and IS classes?

A. Yes. The cost and revenue curves shown in Exhibit 4.9 show the optimized rates for each of these classes.

Q. Are you proposing any changes to the block breaks as a result of the optimization?

A. The optimization program showed us that the current number of block breaks in the GS and TS classes are sufficient. However, we do propose a change in the location of the breaks. We changed the block structure in the FS and IS classes from three blocks to two because the third block did not add significant benefit to the rate design. Exhibit 4.11 compares the current block breaks with the proposed block breaks for each class.

C. Basic Service Fee

Q. Are you proposing any changes to the Basic Service Fees (BSF)?

A. Yes. After reviewing the results of the updated Distribution Plant Study, the Company is proposing to "fine tune" the BSFs in each category. Attached as QGC Exhibit 4.12, page 1, is a table summarizing the new Basic Service Fees as proposed.

Q. How are the BSFs calculated?

A. The details of this calculation are provided as QGC Exhibit 4.12, pages 2 and 3. Referring to page 2, the calculation is performed by first, determining the average gross investment for service lines, mains, and meters for each category. We then reduce the average gross investment to show only the relevant investment amounts to be included in the basic service fee. The reduction happens by multiplying the service line cost by 85%, gross main by 10% and gross meter by 100% (Column B, lines 1 - 3). We then net the product of each down to the current book value (Lines 5 – 7). Finally, we add the return on that investment to taxes, billing and O&M costs, and depreciation costs (lines 9-14) to calculate the Basic Service Fee (line 17).

Q. Can you explain why you use 85% Service Line, 10% Main and 100% meter for the Basic Service Fee calculation?

A. The Basic Service Fee should be set at a level sufficient to collect the minimum required amount to serve an average customer in that Basic Service Fee category regardless of their usage. The Company uses 85% service line because not all customers have their own dedicated service line. For example, an apartment building may have four meters but only one service line serving all four meters. When the total number of system wide meters is divided by the total number of service lines system wide you get approximately 85%. Thus, 85% of the service line is assigned to the customer.

Similarly, mains are typically sized to serve multiple customers. We have included a very small portion of the cost of IHP main (10%) to reflect this fact.

Additionally, each customer has an individual meter and receives 100% of the meter cost.

Q. What are the results?

A. QGC Exhibit 4.12, page 2, line 17 shows the proposed Basic Service Fee in each category, and line 20 shows the current Basic Service Fee charges.

Q. How do the proposed BSF changes impact customers?

A. The basic service fees in all four categories increase slightly. This makes sense because average plant costs have slightly increased since the BSFs were adjusted in the last general rate case.

D. Design Rates and Fees to Collect the Required Revenue by Rate Schedule

Q. Have you calculated rates that correspond to the revenue requirement calculated by Mr. Mendenhall and the COS study you presented earlier in this testimony?

A. Yes, a summary of the proposed rates is shown in QGC Exhibit 4.13. The rate design (green tabs) of "QGC Exhibit 4.16 Utah Rate Case Model" are used through the functionalization process. This model has been provided to all parties in this case as part of the filing. The functionalized costs are then loaded into the optimization program, which is where the rates are optimized and designed. This program was written in an open-source platform called "R". The code has been annotated and can be provided to interested parties. The Company is also willing to explain the program upon request. After the optimization program calculates the rate design, the rates are loaded back into the green rate design tabs of the model in QGC Exhibit 4.16 Utah Rate Case Model for typical verification and summary purposes.

V. CET ALLOWED REVENUE PER CUSTOMER

Q. The Conservation Enabling Tariff (CET) requires that the annual revenue per GS customer be calculated. Have you prepared a calculation of the allowed annual revenue and the monthly spread of the annual revenue per customer to be used in conjunction with the CET?

A. Yes. QGC Exhibit 4.14 shows the calculation of the allowed annual GS revenue per customer. Line 13, Column B contains the total revenue requirement assigned to the GS class. This comes from the Rate Design Summary (QGC Exhibit 4.13 page 1, column I, line 11). This amount is divided by the average number of GS customers in the test period to arrive at the annual revenue per customer of $323.07. QGC Exhibit 4.14 shows the calculation of the monthly allowed CET amounts for the GS class. The calculation of the spread of the annual revenue per customer over the 12 months is based on the forecasted monthly revenues for 2017.

Q. Have you calculated the annual bill for a typical GS customer based on the Company's proposed revenue requirement, COS study and rate design?

A. Yes. QGC Exhibit 4.15, page 1 shows the monthly bill amounts for the typical customer using current rates and the proposed rates. Column F, row 14 shows that the typical GS customer using 80 Dth per year would realize an increase of 5.84%.

Q. What effect do the proposed rate changes have on customers in the FS, TS, and IS classes?

A. QGC Exhibit 4.15 page 3 shows a comparison of the overall bill for a typical FS customer and page 4 shows a comparison of the overall bill for TS and IS customers. For comparison purposes, we have broken both classes into four different usage groups. On average, the TS class (lines 1-5) will experience a 17% increase on their total annual bill, with small customers facing a larger increase and larger customers realizing a decrease, even with the TS class moving to full cost. The variance in rate changes between customers of different sizes is caused by the proposed changes to the block structure, which will reduce intra-class subsidies in the class. The IS class has similar percentage change variances between different sized customers.

VI. ELECTRONIC MODEL

Q. Have you included a working Excel model for the cost-of-service and rate design?

A. Yes. Included in this filing as QGC Exhibit 4.16 Utah Rate Case Model, is a working Excel model that includes all revenue requirement, cost of service, and rate design calculations, with the exception of the optimization algorithm mentioned above. The cost of service calculations are performed in the yellow tabs and the rate design calculations are in the green tabs. All other tabs are used for calculating the revenue requirement.

Q. Does this conclude your testimony?

A. Yes.

State of Utah)
) ss.
County of Salt Lake)

I, Austin C. Summers, being first duly sworn on oath, state that the answers in the foregoing written testimony are true and correct to the best of my knowledge, information and belief. The exhibits attached to the testimony were prepared by me or under my direction and supervision, and they are true and correct to the best of my knowledge, information and belief. Any exhibits not prepared by me or under my direction and supervision are true and correct copies of the documents they purport to be.

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Austin C. Summers

SUBSCRIBED AND SWORN TO this 1st day of July, 2016.

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Notary Public