

Alternative Regulation Options

Objective

The objective of this report is to review alternative regulation methodologies to solve the problem of lost margin revenues to Questar Gas from reduced GS-1 usage per customer, and propose alternatives for discussions among the parties in the Cost of Service Task Force.

Introduction

The issue of revenue stability during periods of declining usage per customer is not unique to Questar Gas. Throughout the natural gas industry in the United States the usage per customer has been declining for several years. This is a result of several factors. Technological advances in gas appliances have resulted in much more efficient gas furnaces, water heaters, dryers, etc. As these appliances are installed in new construction and replace appliances in the existing stock of housing, the usage per customer is permanently reduced. In addition, as a result of rising, and extremely volatile, gas prices, customers have found many conservation measures financially attractive such as increased insulation in ceilings and walls, replacement of single pane windows with high efficiency windows, set back thermostats, storm doors and windows, etc. Each of these measures also permanently reduces the per customer usage in those houses in which they are installed. Finally, also in response to the volatility of prices, customers alter their behaviors to reduce or increase gas usage. For example, customers may choose to lower the setting on the thermostat, close off portions of their house and leave them unheated, reduce their use of hot water, etc. These behavioral changes can temporarily reduce usage per customer, but can also reverse quite quickly. These actions explain, in part, the temporary increases in usage per customer and the sharp decreases that are not consistent with the general downward trend of the usage per customer. Figure 1 shows the temperature adjusted GS-1 usage per customer for Questar Gas from 1981 through May of 2004.

A declining usage per customer affects each company around the country differently, depending on that company's geographical and market circumstances. For example, for a company in an area where natural gas is making inroads into the fuel oil market for heating or the electric market for water heating, increases in usage from these new appliances may offset the declines in the heating usage caused by conservation. In addition, for companies in areas with few degree days, less of the company's revenues are dependent on heating in relation to usage for water heating, cooking, processing and industrial load. These companies are less affected by home insulation and furnace efficiency measures. On the other hand, companies in the colder areas of the country have a higher reliance on space heating sales to recover their revenue requirement. In addition, companies with high saturations of furnace and water heater appliances do not have the opportunity to grow sales through increased penetration into these markets. Since Questar Gas is in the circumstance of having a very high saturation of both furnace and water heating customers in the service territory and is located in an area which has a high number of degree days per year, it feels the full effects of conservation in both of these areas.

Figure 1

Utah GS-1 Temperature-Adjusted Usage Per Customer



As usage per customer reduces company revenues, the fixed costs must be collected over an ever decreasing amount of Dth per customer. This fact can lead to frequent rate cases and/or cause companies to be unable to earn their allowed return because of regulatory lag. As might be expected, Companies and regulatory bodies throughout the US and Canada have chosen to deal with this problem in a variety of ways as shown in Appendix 1.

Cost Of Service Task Force

In January 2003, following the Commission's final order in Docket 02-057-02 in which the Cost Of Service and Rate Design Stipulation was approved, the Cost Of Service Task Force (Task Force), chaired by Darrell Hanson of the DPU, began meeting. The Task Force met for one and a half years to discuss various components of rate design and cost of service.

Additionally, the Parties agreed to study separately the possible development of a tracker mechanism for usage per customer. The issue was discussed in several meetings. No specific consensus was reached but the Task Force felt it was important to continue discussions in this area into the future after the Task Force concluded. In the course of the discussions, the Company was directed to explore in more detail five particular options for addressing this issue and to prepare a brief outline, advantages and disadvantages for each option. The five options are as follows

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1. The Company could use the provisions of recent legislation to file forecasted test years 20 months into the future.
2. The Company would file annual, abbreviated rate cases using projected test years. The annual rate cases would be limited in scope, updating pre-determined accounts, in order to be less time consuming and contentious than a typical general rate case.
3. The Company could include in rate case proceedings a calculation of “Lost Revenues” associated with reductions in usage that result from some or all of the following: 1) Demand-Side Management (DSM) initiatives, 2) reactions to increases in rates, 3) conservation measures not related to DSM, and 4) the replacement of appliances with those of higher efficiency.
4. The Company could implement rate design changes designed to recover a higher percentage of the fixed costs through fixed charges and/or higher low volume initial blocks in a declining block rate structure.
5. The Company could implement a program similar to the decoupling mechanism recently approved in the Oregon jurisdiction for Northwest Natural Gas.

The following provides a brief discussion of each of these options, explaining how each could be implemented for Questar Gas.

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OPTION 1: Use of 20-Month Forecasted Test Years

Proposal

Use the provisions of recently passed Utah legislation that allows utilities to file rate cases with forecasted test years that include up to 20 months of forecast. The 20-month period is important because Utah legislation also requires that final rates in a case be implemented in a maximum of 240 days, or about 8 months. Using a forecast of 20 months allows rates to go into effect, after the 8 months, for the forecasted test year. This synchronizes the rate effective period with the period used to calculate the rates.

Advantages and Disadvantages of the 20-Month Forecasting Methodology

Advantages:

- 1.
- 2.

Disadvantages:

- 1.
- 2.

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OPTION 2: Use of Annual, Abbreviated Rate Cases

Proposal

Agree among the parties on a methodology that includes annual limited rate cases, projected test years and adjustment mechanisms that compensate for significant under- or over-earning by the Company. This methodology was suggested by the DPU during the task force meetings following the order in Docket 02-057-02. Variations of this methodology have been or are being used in other jurisdictions in the country, such as Alabama and California.

In this option, the entire test year would be made up of forecasted information. This option has the advantage of not mixing historical and forecasted concepts as has been the case in the partially forecasted test years used by the Company in recent years. The resulting test year is generally cleaner and more consistent.

Key to this option is a review period in which the projected test year used in the case is compared with the actual results for the same period. This comparison would be made in the first Results of Operations filed by the Company following the test year. The review would identify significant variations in revenues, expenses and rate base from those forecasted in the case and would calculate a fully-adjusted actual ROE earned by the Company for the period. It would also provide the ability for the Commission to adjust rates for significant deviations from forecast that caused the Company to under- or over-earn for the period.

It is important to include these provisions in order to provide protection for the customers and the Company from significant, unexpected gains or losses in revenues or expenses. Without such a mechanism, it may be difficult for the parties to reach agreement on the annual forecasts, and would certainly cause the process to be much more contentious.

If these provisions would be deemed retroactive ratemaking, legislation that would allow the review and subsequent rate adjustments may be required in order to implement such a program.

Advantages and Disadvantages of the Annual Limited Rate Case Methodology

Advantages:

- 1.
- 2.

Disadvantages:

- 1.
- 2.

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OPTION 3: Lost Revenue / Revenue or Usage per Customer Tracker

Proposal

Agree among the parties on a calculation of lost revenue from conservation measures that result in a decline in the usage per customer. The lost revenue calculation could range from the limited declines in usage per customer resulting from Demand Side Management (DSM) initiatives to the entire declines/increases in usage per customer from all factors.

In the case of the limited adjustments relating to only DSM measures, the lost revenue from each DSM initiative would be estimated at the time the program is approved by the Commission and included in the Company's revenue requirement in subsequent rate cases. Since there are many factors, in addition to the DSM initiatives, that affect the usage per customer, it would be very difficult to extract the actual decline in the overall usage per customer that would be attributable to each DSM program specifically.

In the case that the lost revenue would be calculated for the entire movements in the usage per customer, a tracker mechanism would need to be agreed to that would monitor the usage per customer, DNG revenue per customer, overall DNG revenue, etc. and provide an mechanism for adjusting rates for variations in the variable tracked.

Variations of this methodology are also used by companies around the country.

Advantages and Disadvantages of the Lost Revenue Methodology

Advantages:

- 1.
- 2.

Disadvantages:

- 1.
- 2.

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OPTION 4: Rate Design Solution

Proposal

During some of the Cost Of Service Task Force meetings, some rate design options were discussed that could reduce the impact on the Company from a decline in usage per customer. For example, higher basic service fees and/or the use of a steeper declining block rate design in which there are higher rates for the first few Dth used each month, and lower rates for the later blocks. When taken to the limit, this method is referred to as strict fixed/variable rate design (SFV). The use of SFV recovers fixed costs through fixed charges and variable costs through variable charges or rates. When some portion of the fixed costs continue to be recovered through variable rates, this method is referred to as modified fixed/variable rate design (MFV).

This methodology, when using a MFV rate design, is typically used in conjunction with other methods, such as frequent rate cases and/or tracking mechanisms.

This methodology has been used by the FERC for interstate pipelines for several years.

Advantages and Disadvantages of the Rate Design Solution

Advantages:

- 1.
- 2.

Disadvantages:

- 1.
- 2.

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OPTION 5: Decoupling Mechanism / Margin Normalization

Proposal

Design an alternative regulation methodology that includes a partial decoupling mechanism and the public funding of low-income assistance and demand side management activities similar to that recently approved in Oregon.

The Oregon methodology is a two step process. The first step would be to calculate an initial elasticity adjustment that recognizes all the price elasticity effects from the rate changes that have taken place since the last general rate case, which would be the base period. This adjustment would be amortized over a 12 month period as a surcharge or reduction to the DNG rates. The second step would be to calculate the price elasticity effect of each new change in rates. An elasticity adjustment would be calculated for every pass-through case, based on the % change in rates proposed, and included in the filing of the case. In a general rate case, the base period would be redefined. The adjustments will be booked into a balancing account and periodically amortized over a 12 month period as a surcharge or reduction to DNG rates.

In regard to the funding of demand side management activities, Questar Gas currently collects \$250,000 annually in rates to fund low income weatherization in Utah. The funds are transferred to the State Department of Community and Economic Development that manages the program. Following the example of Oregon, additional funds could be collected through surcharges in rates to enhance this weatherization program, as well as introduce other low income assistance and demand side management programs. The funds could be transferred to State agencies or other organizations for implementation of the programs.

Advantages and Disadvantages of the Decoupling Methodology

Advantages:

- 1.
- 2.

Disadvantages:

- 1.
- 2.

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APPENDIX 1

1. FERC – Natural Gas Pipelines

The FERC has approved the use of a straight fixed/variable rate design for interstate gas pipelines in which the fixed costs of the companies are collected through fixed charges and the variable costs are collected through variable rates.

2. Oregon – Northwest Natural Gas

Oregon recently implemented a decoupling mechanism which collects up to 90% of its fixed costs based on other than historical volumes. This is accomplished using a balancing account that adjusts the margin from residential & commercial customers. The margin, which was originally established using historical volumes is automatically adjusted on a real-time basis for the expected price elasticity related increase or decrease in usage as a result of rate increases or decreases.

3. Maryland – Baltimore Gas & Electric

Maryland has implemented a rate adjustment mechanism that allows the company's total allowed revenue to increase automatically between rate cases for growth in the number of customers. A balancing account ensures that the actual collected revenue for a period is equal to the escalated allowed revenue.

4. California

California has a procedure in place where the annual cost-of-capital proceedings are replaced with an automatic adjustment mechanism that is triggered by a change in interest rates that exceeds a predetermined deadband, when the interest rates are expected to continue for the following year. If the mechanism is triggered, rates are automatically adjusted for any associated change in the cost of capital according to a pre-established formula.

The California gas distribution companies are subject to a Biennial Cost Allocation Proceeding (BCAP) that places each company under varying amounts of risk for recovery of non-gas revenues. The BCAP determines the authorized methodologies for allocation of non-fuel gas costs to customer classes, customer rate designs, and amortization of balances in specified balancing and tracking accounts. The costs tracked through the balancing account mechanisms are subject to annual reasonableness reviews and a true-up is implemented in the year between BCAPs.

Southern California Gas is operating under an annual margin indexing mechanism, which incorporates a customer growth factor and indexes the company's margin-per-customer by inflation, less a productivity factor. The mechanism also provides for earnings sharing to the extent earnings exceed a benchmark ROR (but is not symmetrical if the company has a deficit in earnings) and includes service quality standards.

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5. British Columbia

Terasen Gas (formerly known as BC Gas Utility) is operating under a mechanism in which the revenue requirement for O&M expenses is escalated using an index that includes the number of customers served. Balancing accounts ensure the recovery of the revenue requirement for residential services and some commercial and industrial services. Also included are an earnings sharing of all positive and negative variances of actual and authorized earnings, an incentive mechanism related to the amount of capital expenditures compared to benchmarks, service quality standards and a special incentive for load building.

6. Massachusetts

Boston Gas is operating under a price cap mechanism in which the price cap index for gas base rates is adjusted automatically between rate cases with a formula that includes the costs of inflation, a productivity offset, and a factor that includes exogenous events. Also included are an earnings sharing methodology when the actual return on common equity is 400 basis points above or below the allowed return and service quality standards.