BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF:

Joint Application of Questar Gas	)	
Company, the Division of Public	)	
Utilities, and Utah Clean Energy	)	**Docket Number 05-057-T01**
For the Approval of the Conservation	)	
Enabling Tariff Adjustment Option	)	
And Accounting Orders	)	

REBUTTAL TESTIMONY
OF
DAVID E. DISMUKES, PH.D.

ON BEHALF OF THE
UTAH COMMITTEE OF CONSUMER SERVICES

AUGUST 8, 2007

I. INTRODUCTION

Q. WOULD YOU PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS?

A. My name is David E. Dismukes and I am a Consulting Economist with the Acadian Consulting Group. My business address is 6455 Overton Street, Baton Rouge, Louisiana. I am the same person that filed testimony on the behalf of the Utah Committee of Consumer Services ("CCS" or "the Committee") on June 1, 2007.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to some of the issues addressed in the direct testimony of the Division of Public Utilities ("DPU" or "the Division") and Questar Gas Company ("Questar" or "the Company"). In particular:

- The Company's representation of revenue neutrality programs across the U.S. (Direct Testimony of Barrie L. McKay).
- The Division's natural gas demand analysis (Direct Testimony of Daniel G. Hansen).
- The Company's request to make certain modifications to the current CET (Direct Testimony of Barrie L. McKay).

Q. HOW IS YOUR REBUTTAL TESTIMONY ORGANIZED?

A. My rebuttal testimony provides a summary of my recommendations and addresses each of the topics I listed above.

Q. HAVE YOU PROVIDED ANY ATTACHMENTS TO YOUR REBUTTAL TESTIMONY?

A. Yes, I have included one attachment to my rebuttal testimony which includes a survey of the various commonly accepted academic and industry practices, methods, and approaches used in estimating natural gas demand.

Q. HAVE YOU PROVIDED ANY EXHIBITS TO YOUR REBUTTAL TESTIMONY?

A. Yes, I have prepared four exhibits to accompany my rebuttal testimony. These exhibits were prepared by me or under my direct supervision.

II. <u>SUMMARY OF RECOMMENDATIONS</u>

Q. WHAT ARE YOUR SPECIFIC RECOMMENDATIONS IN THIS PROCEEDING?

A. I have three primary recommendations:

(1) In reviewing the status of revenue neutrality, the more appropriate states to consider are those examining, adopting, or rejecting programs that attempt to address issues associated with DSM incentives. Rate stabilization plans ("RSPs") are not relevant to the discussion in this proceeding, and their inclusion unnecessarily clutters and overstates revenue neutrality initiatives.

(2) While the Division's report on revenue decoupling has some useful information for this proceeding, the Commission should reject the natural gas demand analysis and all associated conclusions included in the report indicating that the commodity price risk

shifting nature of revenue decoupling is unimportant. The Division's empirical analysis is inconsistent with decades of academic literature and common utility and regulatory practice.

(3) The Commission should recognize that the Company's proposals to modify the current CET highlight the conceptual (as well as mechanical) deficiencies of the overall program. Specifically, broad mechanisms of this sort are often overreaching and may have unintended consequences. To date, the CET pilot has resulted in a net shifting of risk to customers of between $1.5 million to $3.0 million depending upon assumptions regarding achieved DSM savings. The lost DNG revenues attributable to the Company's DSM efforts are only $35,000 to $434,000 depending upon how estimated DSM participation levels are treated.

III. Questar's State-Level Revenue Neutrality Analysis

Q. PLEASE DISCUSS THE COMPANY'S STATE-LEVEL REVENUE NEUTRALITY ANALYSIS.

A. The Company has provided a map that purportedly shows the current status of revenue decoupling across the U.S. as of March 2007. (QGC Exhibit 1-Yr 1.5) The exhibit is similar in presentation to the map I prepared and included in my direct testimony as Exhibit CCS-1.2. There are, however, some very important differences, the most important being that my exhibit shows a significantly lower level of revenue decoupling activity across the U.S. than the one provided by the Company.

Q. DO YOU AGREE WITH THE REPRESENTATION PROVIDED IN THE COMPANY'S ANALYSIS?

A. No, I disagree with this representation for two reasons. A first and very minor disagreement is that some of the information included in the Company's exhibit can be updated from the March 2007 date. I have provided Rebuttal Exhibit CCS-1.1R as an update to the original exhibit included in my direct testimony. A decision in one other state has been added: Nebraska has recently rejected revenue decoupling. The second and more important issue I have with the Company's exhibit, is that it includes a wide range of additional regulatory initiatives that go beyond a strict examination of revenue decoupling.

Q. WHAT OTHER REGULATORY INITIATIVES ARE INCLUDED IN THE COMPANY'S MAP?

A. The Company's map also includes an examination of states that have adopted straight-fixed variable ("SFV") rate design and rate stabilization plans ("RSPs"). While SFV is a type of revenue neutrality program and is relevant for discussion in this proceeding, RSPs, in my opinion, are not.

Q. WHAT ARE RSPS?

A. RSPs are a type of incentive regulation plan that allows for what can be thought of as "mini-rate cases" between the years in which traditional rate cases are held. While RSPs can vary by state, their common components include:

- A fixed period for the incentive mechanism;
- Annual or semi-annual surveillance reviews;
- Fixed or baseline earnings targets;
- Deadband ranges above and below the target level;
- Earnings sharing mechanisms;
- Pricing flexibility to meet targets based upon movement above or below earnings bands.

Q. WHY DO YOU BELIEVE THAT RSPS ARE NOT RELEVANT TO THE ISSUES IN THIS PROCEEDING?

A. RSPs are commonly thought of as an incentive ratemaking tool rather than directly associated with promoting gas DSM. It is plausible that RSPs could include some type of performance metric allowing for enhanced earnings in return for meeting certain DSM savings targets, but this type of approach has not been proposed by any party in this proceeding. Further, most of these RSPs are typically addressed within the context of a rate case which sets the initial baseline revenues, costs, terms, conditions, sharing bands, and sharing percentages associated with the program. This makes the examination of RSP policies even less relevant for this investigation since there is no way such a policy option could be examined in the context of this (non-rate case) proceeding.

Q. ARE ANY OF THESE RSP PROCEEDINGS BEING BASED UPON DSM

CONSIDERATIONS?

A. No, and in fact many of the gas utilities that have RSPs, particularly those in southeastern states, do not have natural gas DSM programs at this time, nor were the approvals of their RSP proposals predicated on providing positive incentives for promoting DSM in the future. For instance:

- The Louisiana Commission established a RSP for Atmos-LGS and Atmos-TransLa as a form of incentive regulation where excess earnings were shared between the Company and ratepayers. The RSP includes earning ranges below which Atmos would be allowed to adjust rates and above which Atmos would be able to retain all earnings or be required to share or return its earnings to the ratepayers. Neither Atmos-LGS nor Atmos-TransLa have any gas DSM programs for their residential customers.

- In 2005, the Mississippi Commission approved a modification to the RSP associated with Mississippi Valley Gas (an Atmos affiliate). A new earnings sharing mechanism was established with a 50/50 sharing of all earnings above the allowed ROE for the first year. Thereafter, Mississippi Valley Gas is allowed to retain up to 250 additional basis points above its ROE. To date, Mississippi Valley Gas has no residential gas DSM programs.

- Alabama has a Rate Stabilization and Equalization Plan for both Alabama Gas and Mobile Gas Service. If a company's projected return is less than the approved range, it is allowed to increase its rates. If the projected return is more than the approved range, rates are decreased. In addition, a cost control incentive measure is included to keep growth in operation and maintenance expenses below a certain range, or penalties are assessed. Neither Alabama Gas nor Mobile Gas Service has any residential DSM programs.

Q. WHAT ARE YOUR CONCLUSIONS AND RECOMMENDATIONS REGARDING THE COMPANY'S REVENUE DECOUPLING SURVEY?

A. In reviewing the status of revenue neutrality, the more appropriate states to consider are those examining, adopting, or rejecting programs that attempt to address issues associated with DSM incentives. These revenue neutrality programs typically include SFV and revenue decoupling, but not RSPs which are a form of incentive regulation. RSPs are related to other issues, and have little to do with motivating new DSM initiatives. Therefore, including RSPs in any analysis or maps of revenue neutrality unnecessarily clutters and overstates the degree to which states are considering these policy mechanisms.

Q. HOW WOULD YOU CHARACTERIZE THE CURRENT LEVEL OF REVENUE NEUTRALITY ACTIVITY ACROSS THE STATES?

A. Revenue neutrality mechanisms are clearly part of an important policy debate on energy efficiency, and one likely to continue to be important as energy prices remain high. However, a comparison of states adopting or rejecting these policy proposals shows relatively limited scope and mixed outcomes. Looking strictly at revenue decoupling, 10 states have adopted revenue neutrality mechanisms while another 12 have recently rejected such proposals. Further, even in those states which have adopted revenue decoupling, at least six states (including Utah) have done so on a cautious, pilot-program basis. At best, this is a policy initiative that is currently limited in breadth, and is being adopted by state commissions on a temporary basis pending additional analysis.

Q. HAVE THERE BEEN ANY OTHER MAJOR UPDATES REGARDING REVENUE DECOUPLING OPINIONS?

A. Yes. Recently, the National Association of State Utility Consumer Advocates ("NASUCA") passed a resolution stating that it would "continue its long tradition of support for the adoption of effective energy efficiency programs" and "oppose decoupling mechanisms that would guarantee utilities the recovery of a predetermined level of revenue without regard to the number of energy units sold and the cause of lost revenue between rate cases." A copy of this resolution is provided as Rebuttal Exhibit CCS-1.2R.

IV. <u>The DPU's Natural Gas Demand Analysis</u>

Q. PLEASE DISCUSS THE DIVISION'S NATURAL GAS DEMAND ANALYSIS?

A. The Division's testimony includes a report prepared by Dr. Daniel G. Hansen of Christensen Associates Energy Consulting that examines natural gas decoupling mechanisms. Section 5.2 of the report includes an empirical analysis entitled "Analysis of Risk Shifting Under Questar Gas' CET Mechanism." The analysis uses an empirical (statistical) natural gas demand model based upon annual Questar residential usage data for the period 1980 to 2005. It would appear that the purpose of the model has been to estimate the magnitude and statistical significance that price, income, and other variables have on residential use per customer. It would also appear that the hypothesis being examined is that if the parameter estimates associated with these "exogenous" variables are statistically significant, then revenue decoupling results in a shifting of risk from the utility to customers. If these exogenous variables are statistically insignificant, the alternative hypothesis would be supported: namely, that revenue decoupling does not result in a shifting of risk from utilities to ratepayers.

Q. WHAT CONCLUSIONS DID THE DIVISION REACH BASED ON ITS EMPIRICAL ANALYSIS?

A. The study would appear to erroneously conclude that the alternative hypothesis is supported. The study's conclusions specifically note that:

> The estimate of the effect of the [natural gas] commodity price on use per customer varies substantially across models and is not statistically significant in any of the models. Based upon these findings, it does not appear that [natural gas] commodity price risk exists for Questar Gas.

Overall, the study concludes:

> …the findings indicate that weather risk exists, but economic and commodity price risks do not appear to exist based on the analysis of the available data. Therefore, in this case there is no need to consider Statistical Recoupling (to remove the risk shift) or a reduction in Questar's allowed rate of return (to compensate customers for the risk shift). [Hansen Direct Testimony, DPU Exhibit Number 6.1 (DGH-A.1) at 23-24.]

Q. ARE THE RESULTS OF THIS EMPIRICAL ANALYSIS PLAUSIBLE?

A. No. It would appear the empirical conclusion being offered by the Division is there is no risk shifting from revenue decoupling since price is a relatively insignificant determinant of usage. This result ought to strike the Commission as being entirely at odds not only with common sense, but also with the primary purpose of this proceeding which has been to reduce customer demand (and monthly gas bills) through the adoption of cost-effective natural gas efficiency measures. Further, if the Division's results are accepted, then increases in natural gas prices since the winter of 2000-2001 have had no material impact on customer usage. If price is an unimportant determinant of usage as this study concludes, then customers will react no differently in terms of their usage patterns if their bills increase or decrease.

Q. ARE THE DIVISION'S RESULTS CONSISTENT WITH THOSE TYPICALLY FOUND IN BOTH ACADEMIC AND INDUSTRY STUDIES?

A. No, the empirical results are completely at odds with about 40 years of academic research and industry practice. There is a well-established body of literature generally going back to the 1950s, which has attempted to statistically estimate the important determinants of consumer demand. In the utility industry, this literature is equally well-developed and goes back to at least the 1960s. While a number of different methods or techniques have been used over the past 40 years to forecast natural gas demand, prices are usually understood to be one of several important determinants of natural gas demand. Attachment 1 to my testimony provides an overview of the progression of this literature, the methods utilized over the years in estimating natural gas demand functions, and the importance of various variables like prices, income, and weather on natural gas demand. Additionally, my Rebuttal Exhibit CCS-1.3R provides a selected list of the price elasticities of demand commonly found in natural gas demand modeling that I have found over the course of my academic research in this area.

Q. HOW DO THE DIVISION'S STATISTICAL RESULTS COMPARE TO QUESTAR'S ANALYSIS OF THE PRICE ELASTICITY OF DEMAND?

A. The Division's results are inconsistent with the Company's own reported estimates of the relationship between price and natural gas demand. Earlier in this proceeding, the Company indicated that it estimates a -0.06 price elasticity of demand that is derived from its load forecasts supporting its Integrated Resource Plan ("IRP"). (See Questar Response to CCS DR 4.05) Thus the Company estimates that a 10 percent increase in natural gas price would result in a 0.6 percent decrease in natural gas use per customer. While this result appears to be small, and well into the lower band of the commonly estimated ranges for residential natural gas price elasticities, it still exists, and recognizes that price does impact natural gas consumption.

Q. WHAT WEIGHT SHOULD THE COMMISSION GIVE TO THE DIVISION'S STATISTICAL ANALYSIS?

A. None. Admittedly, demand modeling is a challenging process and coming up with estimates that match theoretical and intuitive conclusions can be very frustrating and difficult. It would appear that this is the case with the Division's analysis: it is more than likely fraught with a variety of data, measurement, and estimation problems that make any of the empirical conclusions reached in the study unusable in this proceeding. The Commission should not reach any empirical conclusions on the risk shifting nature of revenue decoupling based upon this highly questionable statistical analysis. Poor statistical estimates are no substitute for good policy decisions and in this case, a good policy decision would recognize that price is an important determinant of natural gas usage and has important implications for the examination of the risk-shifting nature of revenue decoupling proposals.

V. <u>Questar's CET Modification Proposals</u>

Q. PLEASE ADDRESS THE COMPANY'S REQUEST TO ELIMINATE THE CURRENT REVENUE CAP ON BALANCES THAT CAN BE ACCRUED AND RECOVERED THROUGH THE CET?

A. The Company recommends that the Commission remove the revenue caps associated with amounts that can be recovered through the CET account. According to the Company, the limits are not needed and send mixed signals "suggesting that a limited approach to energy efficiency is preferred to an aggressive one." [Direct Testimony, Barrie L. McKay, lines 225-226.]

Q. IF THE CET IS MAINTAINED, DO YOU AGREE WITH THE COMPANY'S PROPOSAL TO ELIMINATE THE REVENUE CAP?

A. No. I would note that if the Commission accepts the alternative lost revenue adjustment ("LRA") mechanism I proposed in my direct testimony, then the need for a revenue cap would be eliminated. However, if the Commission decides to maintain the CET, then I would recommend that a revenue cap be maintained. At this point in time, it is simply not plausible that a revenue cap can be both "not necessary" and "sending bad signals" at the same time. If this constraint is not meaningful, and is something unlikely to occur, then it clearly cannot be sending an inappropriate signal to the Company. Maintaining a revenue cap is an important insurance policy for ratepayers to ensure they are not faced with the types of rapid revenue decoupling balance builds ups which occurred in the early 1990s in Maine, and more recently in North Carolina.

Q WHAT HAS BEEN THE NET IMPACT OF CET COLLECTIONS SINCE THE INCEPTION OF THE PROGRAM?

A Company witness Barry McKay's Exhibit QGC 1-YR 1.2 shows that over the course of the past year, customers' rates having increased (or will increase) by about $2.3 million, on balance, since the CET went into place. This amount is net of the months which included credits to customers' bills including the $1.1 million credit that was included by the Company during the settlement process earlier in this proceeding. Had that settlement not occurred, and the Company was able to start the CET without the initial credit, GS-1 customers might be facing a total rate increase of close to $3.4 million since the program has been in place. If the Commission is looking for an alternative quantitative measure for the magnitude of risk shifting between GS-1 customers and the Company, it need look no further than these balances. Had the CET not been in place, this is a revenue risk that would have been borne by the Company and its shareholders.

Q. HOW DO THE OVERALL CET BALANCES COMPARE TO THE IMPLIED SAVINGS ASSOCIATED WITH THE COMPANY'S CURRENTLY REPORTED DSM PARTICIPATION LEVELS?

A. Rebuttal Exhibit CCS-1.4R compares the current net balance in the CET revenue per customer account to the implied DSM savings that have occurred to date. These savings are implied because they are based upon the current actual participation levels and the estimated savings per customer originally included in the Company's DSM filing. These numbers are summarized below and show that the overall net benefit for **<u>all</u>** residential customers has been a negative $1.25 million.

Table 1: Comparison of DSM Savings and CET Collections

Savings/CET Collections	Amounts
Total DSM Savings to Date	$ 1,986,745
Net CET Collections to Date	$ 3,241,969
Total Net Benefit to Ratepayers	($ 1,255,224)

In other words, over the past year, the Company has been (or will be) able to increase its rates by an amount considerably larger than the savings it has achieved through the aggressive promotion of its DSM programs. In fact, this is a generous reconciliation relative to the CET's progress since it gives the Company credit for what they estimate to be the upcoming participation levels by builders in the Thermwise Builders Rebate Program. If these estimated benefits are excluded, the net benefit of the CET pilot program to date is a negative $3.0 million as seen on page 2 of Exhibit CCS.1.4R.

Q. HOW DOES THIS COMPARE TO THE LOST DNG REVENUES ASSOCIATED WITH THE DSM PROGRAM?

A. The implied lost DNG revenues associated with the DSM programs to date are small. These estimated values have also been provided in Exhibit CCS-1.4R. Generally, the estimated lost revenues range from between $36,000 to $434,000 depending upon how much weight is applied to Company's representation of current participation in the ThermWise Builder Rebate Program. To date, there appears to be very little participation in this program since it is just starting. Instead, the Company has reported this program's participation level based upon on early indications of interest and not actual participation levels.

Q. PLEASE DISCUSS THE COMPANY'S PROPOSAL TO SMOOTH THE MONTHLY REVENUE PER CUSTOMER ALLOCATION FACTORS?

A. The Company is recommending that factors used to allocate annual DNG revenue per customer across the various months ("month-to-month" spread) be based upon a three-year average as opposed to a single, fixed year (currently CET adjustments are based upon 2005 usage and revenue levels). The

Company has noted that the total annual revenue per customer that is allocated across the different months will not change under its proposal. Rather, it is the monthly allocation factors that will change, and will in effect be “smoothed” over a three-year period.

Q. DO YOU SEE ANY PROBLEMS WITH THIS PROPOSAL?

A. Yes. The Company’s proposal clearly highlights one of the most significant deficiencies associated with revenue decoupling and why the CET can result in revenue adjustments that go well beyond DSM-related decreases in usage. Since there has been little DSM participation to date, decreased usage from utility-supported conservation seems to be a very unlikely source of the CET collections to date. It is more than likely that the source of these revenue variations are the result of a number of exogenous factors that could include weather as noted in Section 5.1 of the Division’s CET Report. The CET Report, for instance, notes that a “…decoupling mechanisms [can] improve the functioning of weather normalization mechanisms by “cleaning up” any errors in the definition of normal weather.” [Direct Testimony, Daniel G. Hansen, Exhibit No. 6.1, 14.] The later sections of the report clarify this issue by noting that unless there is some more contemporaneous weather adjustment, revenue decoupling amounts are “...likely to produce more monthly accrual activity than necessary, as the weather patterns in the current year are unlikely to match those of the historical year.” [Ibid., 19.] If weather is in fact leading to increases in accrual activity, the smoothing proposal raises an additional concern about the CET since the motivating factor for its adoption was to promote DSM, not to correct for deficiencies in the Weather Normalization Adjustment ("WNA").

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY FILED ON AUGUST 8, 2007?

A Yes it does.