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MEMORANDUM

To: Public Service Commission

From: Division of Public Utilities
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Energy Section
Marlin H. Barrow, Technical Consultant
Carolyn Roll, Utility Analyst
Artie Powell, Manager

Date: July 25, 2007

Subject: Report and 1st Quarter Review of 2007 QGC DSM programs, Docket No. 05-057-T01

ISSUE:

On January 16, 2007, the Utah Public Service Commission (PSC) issued an order in Docket No. 05-057-T01 authorizing Questar Gas Company (QGC) to offer a suite of DSM programs to its customers for a three year pilot program. The order required the Division of Public Utilities to work with QGC to develop a first heating season evaluation plan and procedures to monitor and verify the development and progress of those DSM programs and report back to the PSC within 180 days for approval by the Commission. Following is the report as well as the results ending the first quarter 2007 on those DSM programs.



REPORT:

“The Commission directs the Division to work with Questar, and other interested stakeholders, to develop processes and methods to monitor, verify, and evaluate the proposed DSM programs. These processes and methods shall be submitted to the Commission for approval within 180 days of this Order. These monitoring and evaluation processes shall, at a minimum, address a first heating season evaluation of the programs as well as the ongoing monitoring and verification procedures. The in-depth evaluation referred to in the application (shown below) shall take place after the third heating season of program implementation.”¹

In the Application for Expedited Approval of DSM Programs filed with the Commission by QGC on December 5, 2006 in Paragraph 47, the following is stated.

“The Company will perform program evaluations over the life of the programs. An in-depth, independent evaluation will be conducted once the programs have been operating for a reasonable period of time. A limited evaluation will be conducted following the one year anniversary of approved DSM programs. The costs for this limited evaluation are included in the budget as shown on QGC DSM Exhibit 1.9, line 18. The limited evaluation will focus primarily on customer awareness, participation levels, process efficiency and customer satisfaction. The results from evaluations will be used to refine the existing programs and to increase the accuracy of future DSM modeling.”

Again, the Commission Order issued on January 16, 2007 states the following.

“The limited first heating season evaluation will, to the extent possible, address impact evaluation, participation levels, measure retention, customer awareness, administration and process efficiency, and customer satisfaction. The results from the ongoing monitoring and verification efforts as well as the initial and final evaluations will be used to refine the existing programs and to increase the accuracy of future DSM modeling. The results of all the evaluations shall be presented to the Commission in the form of timely detailed reports. Any significant changes proposed to the structure or scope of the proposed DSM programs (such as budgets and participation levels) shall be submitted to the Commission for approval.”²

The order provides that:

“Questar shall keep detailed records of all DSM expenditures and shall track them by each separate DSM program or marketing initiative, and by expenditure type. Summary statement prepared from these records shall be presented to the Commission as part of the Account 182.4 approval process.

“The Division shall work with Questar to develop a first heating season evaluation plan and procedures to undertake monitoring and verification during the DSM programs’ operations, which must be submitted to the Commission for approval within 180 days of this Order.”

“The Division shall submit, at a minimum, annual reports regarding the effectiveness, evaluation and measurement of Questar’s DSM programs.”³

¹ Commission Order, January 16, 2007, Docket No. 05-057-T01, P7.

² Ibid, P8.

³ Ibid, P9, Parag 5, 9, 10.

PLAN SUMMARY

Overview

Pursuant to the PSC order as summarized above, the Division submits the following plan for the evaluation of the first year heating season, as well as a plan for methods of monitoring and verification of QGC DSM programs ongoing. In developing this plan, the Division considered input from QGC as well as other members of the DSM Advisory Group.

The plan is separated into two main components: (1) the First Year Limited Evaluation Component and (2) the Ongoing Evaluation Component. Within each component there will be three general categories of evaluation emphasis: Process Evaluation, Data Gathering and Impact Evaluation. Results from the First Year Limited Evaluation will help to inform processes and methodologies for the Ongoing Evaluation(s) as well as inform improvements to the implementation and management of Questar Gas energy efficiency programs.

The Division realizes that at the time the Commission issued the order, there may have been the perception that QGC was ready to begin an immediate roll out of the approved DSM programs in January 2007. In actuality, after the order was issued in January 2007, QGC had to contract with third party providers to develop the proposed DSM programs, applications, website, processes and advertising. The effective date for launching the DSM programs was March 1, 2007. Therefore DSM programs were not available to the public for the 2006-07 heating season. For this reason the Division has included the table below to show significant time periods and dates related to the QGC DSM Pilot Program.

QGC DSM Program Periods and Dates Overview			
Program Aspect	Time Period	Dates	Description
Program Start / End	Calendar Years 2007,2008,2009	January 1 thru December 31	PSC approved beginning and ending of DSM programs each year.
Heating Season	Winter Months	November 2007 thru March 2008	First heating season
		November 2008 thru March 2009	Second heating season.
		November 2009 thru March 2010	Third heating season.
Budgets Due to PSC	Annual	October 1	PSC ordered date for submitting program budgets each year.
Program Revision Cycle	Annual	June / July / August	Timeframe for developing program revisions based on program management and evaluations and to meet budget deadline.

Attached as Appendix A to this report is the First Quarter Summary Results of Expenditures for QGC DSM programs ending March 2007.

First Year Limited Evaluation

As stated in the order, “*The limited first heating season evaluation will, to the extent possible, address impact evaluation, participation levels, measure retention, customer awareness, administration and process efficiency and customer satisfaction.*”⁴ The First Year Limited Evaluation plan will seek to gather and document the baseline processes and methods which will be used to perform the Ongoing Evaluation of program(s) in future years and verify that the Company is managing the overall effort as proposed.

Process Evaluation

The First Year Limited Evaluation will look at program processes, including but not limited to the following: energy-efficiency programs and measures offered, accounting procedures, rebate funding process, general work flow, rebate processing and approval procedures, rebate processing time-frame and safeguards, such as fraud prevention and auditing procedures, scheduling and customer interface and research and evaluation.

The desired result of this Process Evaluation is to identify and implement actionable improvement procedures for cost-effectively administering successful energy-efficiency programs that produce significant and cost-effective savings for QGC customers.

Data Gathering

The First Year Limited Evaluation will look at data gathering needs, processes and organization, including but not limited to tracking participation at the program and measure levels, including associated costs and gas savings. Tracking and reporting of these items will occur on a monthly basis beginning with the launch of the programs (March 1, 2007). Through the Data Gathering evaluation, other data fields may be identified and procedures recommended for reasonable and pertinent tracking, gathering and reporting.

Accurate and reliable evaluations require accurate and complete integrated datasets. The evaluation process will draw on data from a variety of sources such as applications for energy audits, application for types of rebates etc. The Data Gathering category will employ an integrated data collection approach in order to achieve high levels of accuracy and completeness. The concept of integrated data collection provides a data acquisition process that is designed into the program process flow, and occurs throughout the life of the program.

The desired result of Data Gathering emphasis is to identify needs and implement actionable procedures for cost-effectively gathering and compiling data from many sources to inform evaluations, reporting and improvement procedures for programs and the overall campaign.

⁴ Ibid p8.

Impact Evaluation

The Impact Evaluation category consists of an analysis of energy savings attributable to the programs, program measures, as well as the overall energy-efficiency campaign. First year impact results are not very meaningful or reliable in determining savings or cost-effectiveness of programs and/or measures. *“It will take some time before participation goals (savings) are realized.”*⁵ Therefore, during the First Year Limited Evaluation plan, Impact Evaluations will be limited to (1) analyzing the trends in participation levels to roughly estimate savings and (2) determining and implementing a process for conducting the ongoing impact evaluations when meaningful and reliable data is available.

The intent of this plan is to use an independent contractor to perform the First Year Limited Evaluation Process Evaluation and Data Gathering assessment. This will be accomplished by issuing a Request for Proposal (RFP). An accelerated RFP can be developed and issued by August 31, 2007 (pending PSC approval of the plan). Interested contractors would then have 30 days to respond (September 30, 2007) with proposals and would have 30 days (October 30, 2007) to award the winning bid and 30 days to execute a contract (November 30, 2007) with the successful candidate. Once a contract is in place it is estimated that the evaluation contractor would need three to six months to perform the First Year Limited Evaluation Process Evaluation.

Ongoing Evaluation

Ongoing Evaluation will be comprised of three categories: (1) Process Evaluation, (2) Data Gathering and (3) Impact Evaluation. However, during the Ongoing Evaluation, the emphasis will be placed on the Impact Evaluation.

Process Evaluation

The need for process evaluation ongoing will be very much limited and concentrated in the area of refinements and enhancement to recommendations implemented from the First Year Limited Evaluation component. As programs are added or removed from the overall portfolio there may be a need to re-evaluate some processes that could be affected to ensure maximum efficacy. Consequently, process evaluation during the OE component will be identified and performed as needed.

Data Gathering

Data gathering is critical for the Ongoing Evaluation component and should continue for the life (and possibly beyond in some circumstances) of any program or campaign. Most, if not all Data Gathering procedures will be established during the First Year Limited Evaluation (if not already established). As with Process Evaluation, as programs are added or removed from the overall portfolio there may be a need

⁵ Direct Testimony of David E. Dismukes Ph.D on behalf of the Utah Committee of Consumer Services Docket No. 05-057-T01. Lines 546-547.

to re-evaluate some data gathering systems and/or protocols to ensure maximum efficacy. Consequently, data gathering systems will be evaluated during the OE on an as needed basis.

Impact Evaluation

During the Ongoing Evaluation, impact analyses will employ industry-accepted methods of analysis that rely on well-developed engineering and statistical analysis techniques including the possibility of energy-use simulation models, multi-variate regression models, and/or other analytic tools. The analysis will emphasize leveraging data collected by QGC and/or QGC's implementation contractors through the course of program implementation. Data will be supplemented by various on-site measurement and verification data collection activities. These activities may include: conducting store and consumer surveys to determine product availability and knowledge of programs.

The Impact Evaluation will incorporate net-to-gross ratios that factor in both free-ridership and spillover effects. Free-ridership and spillover factors are combined in the net-to-gross ratio for each program and are used in the program / measure cost-effectiveness model.

In addition to the evaluation of energy-savings from the programs, "third-tier benefits" will be examined. Third-tier benefits are non-energy impacts. These can include both benefits and costs resulting from the program. For example, it is commonly observed that more energy-efficient homes are more comfortable homes. In the case of new homes, constructing homes to the program standard may cost the builder slightly more per home. These are the indirect impacts from the program that can be identified and are usually identified in standard analyses, but not necessarily quantified in a benefit-cost framework.

Market Transformation is the change or movement in the marketplace, i.e. consumer awareness, attitudes and preferences, purchasing practices and lifestyle changes, as well as market actor changes such as increased inventory, knowledge and promotion of energy-efficient appliances. Market Transformation includes evaluation of the entire market, both program participants and non-participants.

Some QGC specific market transformation areas that currently have been identified for evaluation include: advertising, education, awareness campaigns, building codes – education and enhancement / enforcement and market actor (trade ally) education and training efforts. Again baseline data collection efforts will be made as well as on-going or post efficiency measures / program participation data collection to help identify and determine impacts.

The overriding goal of the Ongoing Evaluation is to identify program and measure improvements or enhancements to ensure cost-effective energy-efficiency and natural gas savings for customers. Evaluations will identify market barriers and customer needs and make recommendations for solutions to these barriers and needs through program improvements and offerings.

The plan is to hire an independent contractor to perform the Ongoing Evaluation Impact. This will be accomplished through a Request for Proposal (RFP) process. The estimated timeline for this process includes: Develop and offer a Request for Proposal (RFP) by December 31, 2007. Interested contractors would have 45 days to submit proposals (February 15, 2008). Thirty days would be needed to evaluate

proposals and award the winning bid (March 15, 2008). Forty five days would be required to execute a contract (April 30, 2008). Evaluation work to begin by June 1, 2008 with the following reporting deadlines: (1) preliminary impact report due November 30, 2008 covering baseline usage (possibly customer usage from 2000 to 2006) to customer usage from program launch through March 31, 2008; (2) cumulative impact report covering baseline usage and year to year usage from program launch through three-year pilot timeframe (2007 – 2010) due June 30, 2010.

RFP's issued will include the opportunity for potential bidders to bid on both the First Year Limited Evaluation and Ongoing Evaluation phases of the pilot program as a complete package as well as bidding on each phase independent of the other. The successful bidders will work with the Division in performing the monitoring of the DSM programs in the same manner that currently is followed by Rocky Mountain Power's DSM programs.

APPENDIX A

SUMMARY

The table below summarizes the five programs and the Market Transformation's first year budget and the expenditures through March, 2007.

QGC QUARTERL DSM REPORTS 1ST QUARTER 2007

	2006-2007 Estimated Participants	YTD Actual Participants	2006-2007 Budget (000)	YTD Actual Costs (000)	YTD % of Budget
Residential Appliance	15499	0	\$ 1,847	\$ 96	5.2%
Energy New Star Homes	8605	0	\$ 2,798	\$ 88	3.2%
Commercial Rebates	487	0	\$ 261	\$ 16	6.3%
Residential Audit	841	0	\$ 922	\$ 100	10.9%
Market Transformation	0	0	\$ 911	\$ 366	40.1%
Low Income Weatherization	0	0	\$ 250	\$ 125	50.0%
Total	25432	0	\$ 6,989	\$ 791	11.3%
DSM Interest				\$ (25)	
R&D Funds Transfer			\$ (1,300)	\$ (1,300)	
Current Balance			\$ 5,689	\$ (534)	

DISCUSSION:

Five (5) separate DSM programs, which are designed to help customers improve the efficiency of their natural gas consumption, are in QGC DSM program offering. In addition to these programs, funds were also requested for a **Market Transformation Initiative** which is designed to help educate customers awareness of the need to conserve natural gas usage as an ongoing mind set. The first year annual budget is \$6.989 million. Four of the five programs contain multiple offerings or measures to help customers reduce their natural gas consumption. They are (1) a **Residential Appliance Program**, (2) an **Energy Star New Homes Program**, (3) a **Commercial Rebate Program** and (4) a **Residential Home Audit and Weatherization Program**. The fifth program, **Low Income Weatherization Assistance Program**, increased the annual funding by \$250,000 to the Department of Community and Economic Development who administers the Queatar Gas's Low Income Weatherization and Assistance Program .

PROGRAM REVIEW

(1) Residential Appliance Program:

The Residential Appliance Program offers consumers six different appliance choices which are shown in the following table along with estimated first year participants, actual participants, first year budget amounts and actual expenditures through March 2007.

	2006-2007 Estimated Participants	YTD Actual Participants	2006-2007 Budget (000)	YTD Actual Costs (000)	YTD % of Budget
RESIDENTIAL APPLIANCE PROGRAM					
Energy Star Clothes Washer - Tier 1	5508		275.4		0.0%
Energy Star Clothes Washer - Tier 2	3672		275.4		0.0%
High Efficiency Gas Clothes Dryer - Residential	226		6.8		0.0%
High Efficiency Gas Water Heater - Residential	4052		202.6		0.0%
Tank Less Gas Water Heater - Residential	41		12.3		0.0%
90% Plus AFUE Condensing Gas Furnace - Residential	2000		600		0.0%
Administrative & Overheads			\$ 475	\$ 96	20.1%
	15499		\$ 1,847	\$ 96	5.2%

(2) Energy Star New Homes Program:

The Energy Star New Homes Program is designed to give builders more of an incentive to build homes which meet the Energy Star Home ratings requirements. These incentives can be received either by installing individual appliances as shown in the following table or by building the home to meet the Energy Star Whole Home Certificate requirement.

	2006-2007 Estimated Participants	YTD Actual Participants	2006-2007 Budget (000)	YTD Actual Costs (000)	YTD % of Budget
ENERGY STAR NEW HOMES					
Basic Energy Star Specifications - IECC plus 15% minimum, plus	1669		835		0.0%
High Efficiency Gas Water Heater - Home Builder	3338		167		0.0%
Tank Less Gas Water Heater - Home Builder	260		78		0.0%
90% Plus AFUE Condensing Gas Furnace - Home Builder	3338		1001		0.0%
Administrative & Overheads			\$ 717	\$ 88	12.3%
	8605		\$ 2,798	\$ 88	3.2%

(3) Commercial Rebate Program

The Commercial Rebate Program offers fourteen broad measures, some of which have different size or efficiency standards, which are designed to provide fuel savings to commercial operations.

	2006-2007 Estimated Participants	YTD Actual Participants	2006-2007 Budget (000)	YTD Actual Costs (000)	YTD % of Budget
COMMERCIAL REBATE PROGRAM					
High Efficiency Gas Water Heater	38		1.7		0.0%
Energy Star Horizontal Clothes Washer	28		1.6		0.0%
Commercial Clothes Washer	4		0.6		0.0%
Gas Clothes Dryer	28		0.8		0.0%
Gas Unit Heater NonCondensing	12		6.5		0.0%
90% Plus AFUE Condensing Gas Furnace	70		17.6		0.0%
High Efficiency Boiler Hot Water	16		10.4		0.0%
Direct Contact Water Heater	1		3		0.0%
Programmable Thermostat - Commercial	100		3		0.0%
Low Flow Pre-rinse Spray Valve	100		3		0.0%
Boiler Reset Control	28		7		0.0%
Infrared Heating System	6		4.5		0.0%
Boiler Tune-up	56		16.8		0.0%
Administrative & Overheads			\$ 185	\$ 16	8.8%
	487		\$ 261	\$ 16	6.3%

(4) Residential Home Audit and Weatherization Program.

The Residential Home Audit and Weatherization Program provides consumers the opportunity to have an energy audit, either on site with a qualified technician, or through a mail in questioner form.

	2006-2007 Estimated Participants	YTD Actual Participants	2006-2007 Budget (000)	YTD Actual Costs (000)	YTD % of Budget
RESIDENTIAL HOME ENERGY AUDIT & WEATHERIZATION PROGRAM					
Windows - Residential	6389 sq ft		6		0.0%
Wall Insulation	95,372 sq ft		43		0.0%
Duct Sealing	47		11		0.0%
Duct Insulation - Residential	47		12		0.0%
Roof Insulation - Residential	95,372 sq ft		33		0.0%
Windows - Residential	30		\$ 6		0.0%
Wall Insulation	60		\$ 43		0.0%
Duct Sealing	47		\$ 11		0.0%
Duct Insulation - Residential	47		\$ 12		0.0%
Roof Insulation - Residential	159		\$ 33		0.0%
Floor Insulation	159		\$ 34		0.0%
Programmable Thermostat - Residential	339		\$ 10		0.0%
Audit Efficiency Measures	5804		\$ 31	\$ 3	11.0%
Administrative & Overheads			\$ 743	\$ 97	13.0%
	841		\$ 922	\$ 100	10.9%

(5) Market Transformation Initiative

The Market Transformation Initiative is an advertising campaign directed at consumers to make them aware of the need to save natural gas energy and that Questar Gas Company is offering rebate incentives to consumers to encourage them to use the measures provided in the DSM programs to accomplish that purpose.

	2006-2007 Estimated Participants	YTD Actual Participants	2006-2007 Budget (000)	YTD Actual Costs (000)	YTD % of Budget
Market Transformation	NA	NA	\$ 911	\$ 366	40.1%

(6) Low Income Weatherization

This initiative provides increased funding to the Questar Low Income Weatherization program administered through the Department of Community and Economic Development.

	2006-2007 Estimated Participants	YTD Actual Participants	2006-2007 Budget (000)	YTD Actual Costs (000)	YTD % of Budget
Low Income Weatherization	NA	NA	\$ 250	125	50.0%