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**Division of
Public Utilities**

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MEMORANDUM

To: Public Service Commission

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

Date: December 10, 2007

Subject: 3rd Quarter Review of 2007 QGC DSM programs, Docket No. 07-057-05

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 Demand Side Management (DSM) programs to its customers for a three year period as a pilot program. On August 27, 2007, the PSC issued a notice separating the DSM programs from Docket No. 05-057-T01 into Docket No. 07-057-05. The Division of Public Utilities (DPU) is required to monitor the development and progress of the DSM programs and report back to the PSC their findings. This is the third quarter report for 2007 on those approved DSM programs.



DISCUSSION:

Five (5) separate DSM programs, which are designed to help customers improve the efficiency of their natural gas consumption, are in the QGC DSM program offering. In addition to these programs, funds were appropriated for a **Market Transformation Initiative** which is designed to help educate natural gas customer's awareness of the need to conserve their consumption of natural gas as an ongoing mind set. The first year annual budget for the DSM Program offerings is \$6.988 million. Four of the five programs contain multiple offerings or measures to help customers reduce their natural gas consumption. They are (1) **Residential Appliance Program**, (2) **Energy Star New Homes Program**, (3) **Commercial Rebate Program** and (4) **Residential Home Audit and Weatherization Program**. The fifth program, **Low Income Weatherization Assistance Program**, increased the annual funding by \$250,000 to a total annual amount of \$500,000 to the Department of Community and Economic Development who administers the funds and provides the expertise to improve energy efficiency for low income residents.

The third quarter report is the first report that provides engineering estimates of annual Dth savings based on YTD Actual Participation numbers. The YTD Actual Participants numbers shown represent those customers who have applied for rebates who the DSM program administrators have verified as having met all the qualifications required for program rebates and who have had those rebates mailed out to them.

SUMMARY

The table below summarizes the Benefit Cost Ratios for each program group using the same model that was filed with the original DSM program applications updated with third quarter results.¹

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The Total Resource Cost Test, Utility Cost Test and Ratepayer Impact Measure Test all show improvement in both NPV and B/C ratios from the 2nd quarter results. The Participant Test's NPV has increased from the 2nd quarter's test result of \$2.5 million to the \$7.2 million shown in the above table.

Through the 3rd quarter of the year, \$4.2 million of the budgeted \$7.0 million or 60% of the total budgeted dollars have been spent.² An engineering estimated total annual savings of 86,317 Dth, based on year to date participants is anticipated.

¹ QGC ran all four California Tests using actual YTD participants, YTD costs and assuming the engineering estimates of savings for each prescriptive program filed in the original application. Cost data for the Low Income Weatherization Program was furnished by Mike Johnson of the Department of Community and Economic Development.

² Before the \$1.3 million dollar credit for the transfer of R&D funds to the DSM account.

The Residential Audit and Weatherization program has exceeded budget by 16% with \$1.1 million paid out in rebates. The Commercial Rebates program is 1% over plan. Although only at 71% of budget, the Residential Appliance program has paid out the most in rebates at \$1.3 million.

Due to recent trends in October and November, the Company expects that several measures will exceed their budgeted results but due to the mix of these measures, the total budgeted amount of \$6.989 million will not be exceeded. Also due to the mix of measures for which rebates have been paid out, the expected Dth savings, based on engineering estimates, is expected to exceed the original deemed budgeted annual savings of 135,992 Dth.

The following table compares, by program, the actual year to date expenditures through the 3rd quarter to the budget as well as the stand alone 3rd quarter results. In Docket No. 07-057-11, QGC requested and was given approval by the Commission to begin amortizing \$2.3 million of the \$2.9 million balance in DSM costs.

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Based on actual year to date participation, the engineering expected annual Dth savings for all the programs is 86,317.³

INDIVIDUAL PROGRAM REVIEW

(1) Residential Appliance Program:

The Residential Appliance Program offers consumers six different energy-efficiency measures choices which are shown in the following table along with estimated first year participants, actual YTD participants, first year budget amounts and actual YTD expenditures through September 2007 as well as the activity for the 3rd quarter. 71% of the total budget has been spent through the 3rd quarter while total participation is at 57% of the estimated participation. Participation in the 3rd quarter exceeded the 2nd quarter participation by 38%. The Energy Star Clothes Washer-Tier 2 measure, the High Efficiency Gas Clothes Dryer measure and the Tank Less Gas Water Heater measure have all exceeded their budgeted rebate amounts due to greater than expected participation. The High Efficiency Gas Water Heater measure will not meet its expectations because the required water heaters are not carried as readily available inventory stock by most retail outlets. They are either special order items or need to be obtained through a

³ Savings reflects net Dth deemed savings based on actual participants and engineering estimates with an 80% net to gross ratio applied to account for free rider-ship.

plumbing contractor. It is expected that the water heater efficiency standard will be adjusted in the 2008 budget request so that more efficient water heaters that qualify for rebates will be readily available through most retail outlets. It is also expected that the Energy Star Clothes Washer – Tier 1 measure will not meet the estimated participation level while the 90% plus gas furnace is expected to exceed its estimated participation level for 2007. Overall, because of the expected mix in measure rebates, the Company forecasts for the year that the engineering estimated Dth savings for the entire program will exceed the budgeted annual savings of 44,946 Dth.

Error! Not a valid link. Based on actual year to date participation, the engineering expected annual Dth savings for the Residential Appliance Program is 29,891.⁴

(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 building the home to meet the Energy Star Whole Home Certificate requirement as shown in the first line or by installing individual appliances as shown in the following lines of the table below. Through the 3rd quarter, 18% of the budgeted costs have been spent while only 6% of the targeted participant levels have been realized year-to-date. The third quarter saw a 135% increase over the 2nd quarters results. This program is expected to have a significant time lag due to the construction time involved in the building projects and future expectations may need to be adjusted downward due to a downturn in new home starts.

Error! Not a valid link. Based on actual year to date participation, the engineering expected annual Dth savings for the Energy Star New Homes is 7,537.⁵

(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. Through the 3rd quarter, this program has spent 101% of its budgeted costs. This is mainly due to the switch over to the

⁴ Savings reflects net Dth deemed savings based on actual participants and engineering estimates with an 80% net to gross ratio applied to account for free rider-ship.

⁵ Ibid

infrared heating systems by the turkey processing plants in the state which have caused total participants to exceed the estimate by 292% with the 3rd exceeding the 2nd quarter results by 110%. With the exception of the Commercial Programmable Thermostats all other measures in this program are expected not to exceed estimates.

Error! Not a valid link. Based on actual year to date participation, the engineering expected annual Dth savings for the Commercial Rebate Program is 30,239.⁶ The high level of Dth savings compared to the dollars spent is due to the Infared Heating Systems. It is anticipated that measures other than this category will not see the same savings results as the Heating Systems.

(4) Residential Home Audit and Weatherization Program.

The Residential Home Audit and Weatherization Program provide consumers the opportunity to have an energy audit, either on site with a qualified technician, or through a mail in questionnaire form as well as Weatherization measures designed to make existing homes more energy efficient. Year to date, this program is 16% over plan with the combined audit and rebate participation at 284% of plan. The 3rd quarter participation levels exceeded the 2nd quarter by 250%. The window replacement, wall and roof insulation have all exceeded expectations for the first year. Duct sealing and insulation is expected not to exceed plan levels due to the difficulty in many instances of gaining reasonable access to the duct work and the lack of qualified and willing contractors to perform the work. The numbers in the Audit Efficiency Measures, in table on the next page, represent units given out, not the number of audit participants. The total of both mail and in-home audits through the 3rd quarter is 1,448. The Company expects the deemed Dth savings for these combined programs will exceed budgeted Dth savings due mainly to the insulation work and window replacement measures.

Error! Not a valid link. Based on actual year to date participation, the engineering expected annual Dth savings for the Residential Home Audit and Weatherization Program is 18,649.⁷

(5) Market Transformation Initiative

⁶ Savings reflects net Dth deemed savings based on actual participants and engineering estimates with an 80% net to gross ratio applied to account for free rider-ship.

⁷ Savings reflects net Dth deemed savings based on actual participants and engineering estimates with an 80% net to gross ratio applied to account for free rider-ship.

The Market Transformation Initiative is an advertising campaign directed at consumers to heighten awareness of the need to save natural gas energy as well as to provide funding for the State Energy Program to conduct Building Codes awareness training to industry and local government representatives. QGC is offering rebate incentives to consumers to encourage them to use the measures provided in the DSM programs to conserve natural gas energy and to meet and exceed building codes. Those rebates are provided in the aforementioned four programs

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(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.

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Cc: Barrie McKay, Questar Gas Company
 Dan Dent, Questar Gas Company
 Michele Beck, Committee of Consumer Services
 Rea Petersen, DPU Customer Service
 Francine Giani, Department of Commerce