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Division of Public Utilities

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MEMORANDUM

To: Public Service Commission

From: Division of Public Utilities
Philip Powlick, Director
Energy Section
Marlin H. Barrow, Technical Consultant
Artie Powell, Manager

Date: September 1, 2009

Subject: Review of 2nd Quarter 2009 QGC DSM Programs, Docket No. 08-057-22

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. In that order, the Commission directed QGC to file a third year budget by October 1, 2008. QGC complied with that order and on December 3, 2008 the Commission approved the third year budget. This is the Division's report on the Year to Date (YTD) results through the 2nd quarter of the third year DSM budget ending June 30, 2009.

REPORT:

Eight (8) separate DSM programs, which are designed to help customers improve the efficiency of their natural gas consumption, are in the 2009 QGC DSM budget. In addition to these programs, funds were budgeted for a continuation of the **Market Transformation Initiative**. This program is designed to help educate natural gas customers on the benefits of reducing their consumption of natural gas on an ongoing basis. The 2009 annual budget for the DSM Programs

is \$17.8 million¹. Seven programs contain multiple offerings or measures designed to help customers reduce their natural gas consumption. They are (1) **ThermWise Appliance Rebates Program**, (2) **ThermWise Multi-Family Rebates Program**, (3) **ThermWise Business Rebates Program**, (4) **ThermWise Builder Rebates Program**, (5) **ThermWise Home Energy Audit Program**, (6) **ThermWise Weatherization Program** and (7) **ThermWise Business Custom Rebates Program**. QGC's DSM programs also includes the **Market Transformation Program**, which is designed to increase customer's awareness of the specific programs available to assist those customers in reducing their demand for the consumption of natural gas. The **Low Income Weatherization Assistance Program** continues with annual funding of an additional \$500,000 bringing the total annual amount provided by QGC to \$750,000 to this program. The Department of Community and Economic Development administers the funds and provides the expertise to improve energy efficiency for low income residents by using the additional \$500,000 to upgrade customers to high efficiency furnaces.

2009 2nd QUARTER DSM PROGRAM SUMMARY

Table 1 on the next page compares, by program, the actual YTD expenditures through the 2nd Quarter of 2009 with the 2009 annual budget. This table shows a total YTD expenditure of \$30.5 million through June 30, 2009 (Col E ln 14), which is over the annual budget of \$17.8 million by 71.7%. Of the \$30.5 million, approximately 60%, or \$18.4 million, was spent in the 2nd Quarter. In other words, spending in the 2nd quarter alone exceeded the annual budget by approximately 3%.

¹ In a letter to the Commission dated June 30, 2009, Questar requested Commission approval for an increase in DSM spending to \$40.7 million.

Table 1: DSM Energy Efficiency Report Summary

QUESTAR GAS COMPANY
 DSM ENERGY EFFICIENCY REPORT
 YEAR TO DATE THROUGH June 30, 2009
 DOCKET NO. 08-057-22

	A	B	C	D	E	F	G	H	I
	2009	YTD	2009	YTD	YTD \$	YTD	2009	TRC	
	Estimated	Actual	Budget	Actual Costs	% of	Dth	Dth	B/C	
	Participants	Participants	(000)	(000)	Budget	Savings*	Savings*	Ratio	
ThermWise Appliance	34,685	18,878	\$ 5,067.0	\$ 2,680.1	52.9%	73,442	122,300	2.0	
ThermWise Multi-family	3,309	6,972	\$ 2,090.9	\$ 3,077.2	147.2%	46,374	21,049	2.1	
ThermWise Builder	3,215	1,948	\$ 2,260.9	\$ 1,134.3	50.2%	27,497	41,741	2.0	
ThermWise Business	1,364	487	\$ 737.4	\$ 297.9	40.4%	14,477	39,467	2.7	
ThermWise Custom Business	15	1	\$ 294.6	\$ 22.8	7.7%	915	6,011	2.9	
ThermWise Audit	3,593	1,755	\$ 647.8	\$ 351.3	54.2%	5,114	9,699	1.0	
ThermWise Weatherization	15,746	52,400	\$ 4,922.9	\$ 21,980.2	446.5%	342,091	80,218	2.3	
Market Transformation	NA	NA	\$ 1,265.8	\$ 743.6	58.7%	NA	NA	0.0	
Low Income Weatherization	NA	NA	\$ 500.0	\$ 250.0	50.0%	NA	NA	0.0	
Total	61,927	82,441	\$ 17,787.3	\$ 30,537.4	171.7%	509,910	320,485	2.2	
DSM Interest				\$ 806.0					
DSM Amortization				\$ (9,932.4)					
DSM General Administration				\$ -					
R&D Funds Transfer				\$ -					
YTD Change Acct 82400				\$ 21,411.0					
December 2008 Acct 82400 Bal				\$ 17,750.9					
Ending Balance Acct 82400				\$ 39,161.9					

22 *Savings reflects the net Dth deemed savings based on actual participants with an 80% net-to-gross ratio applied.

Of the \$30.5 million spent year-to-date, \$29.5 million was spent in the seven programs which contain multiple measures. Of this \$29.5 million, 91% is for rebates paid to customers while the other 9% is for administrative expenses (exclusive of the Market Transformation and Low Income Weatherization programs).

As shown in column F of Table 1, all programs, with the exception of the ThermWise Weatherization, Multi-family, and Custom Business programs, are tracking close to the expected percentage of budgeted expenditures through the second quarter. The Division will discuss these three programs in this report.

THERMWISE CUSTOM BUSINESS PROGRAM

The ThermWise Custom Business Program is designed for customer specific applications and requires longer development time before results are achieved. There is only 1 participant through the 2nd quarter, however, as shown in column I line 9 in the above table, the Total Resource Benefit Cost Ratio for this participant is the best when compared to the other programs. Because projects under this program tend to be few but large, it is expected that other applications, when completed, can also produce significant cost benefit ratios.

THERMWISE WEATHERIZATION PROGRAM

The ThermWise Weatherization program exceeded its budget by 79% in the first quarter due to an unanticipated acceleration in the roof insulation program caused by an unexpected drop in material and labor costs as well as by insulation contractors making a concerted effort to promote the measure to customers. QGC filed an application on March 11, 2009, in Docket No. 09-057-T04, requesting permission from the Commission to reduce the rebate amounts allowed in the roof, floor and wall measures for both the ThermWise Weatherization and the Multi-family Programs from \$0.35 to \$0.20 per square foot for the roof and floor measures and from \$0.45 to \$0.30 per square foot for the wall measure. QGC also sought permission to increase the Weatherization Program budget to \$9.1 million. Of the requested \$9.1 million increase, \$1.5 million was for estimated increases in the administrative and evaluation expenses. On March 31, 2009, the Commission granted the changes in the rebate amounts with an effective date of May 2, 2009 while deferring until a later date any request for increased funding in the administrative and evaluation expenses.

Through the 2nd quarter, the ThermWise Weatherization program has exceeded the original budget by 347% at \$22.0 million and YTD participation levels are 3.3 times greater than anticipated for the entire year. For reasons previously mentioned, the Weatherization program has already exceeded the 2009 budget amount by \$16.4 million with \$15.7 million of this variance due to the Residential Roof Insulation measure. As a result of the rebate allowance changes authorized in Docket No. 09-057-T04, QGC anticipates the insulation programs growth will slow in the coming months.

Table 2 below for the Weatherization Program shows that all measures, but the Windows Replacement Measure, has exceeded the expected budget participation by the 2nd quarter of the 2009 budget year (Column C). However, even in the Windows Replacement Measure, YTD participation is at 98% of budgeted participation with expenditures at 68% of the budgeted amount, well above the 50% level that would be expected through the 2nd quarter of the year.

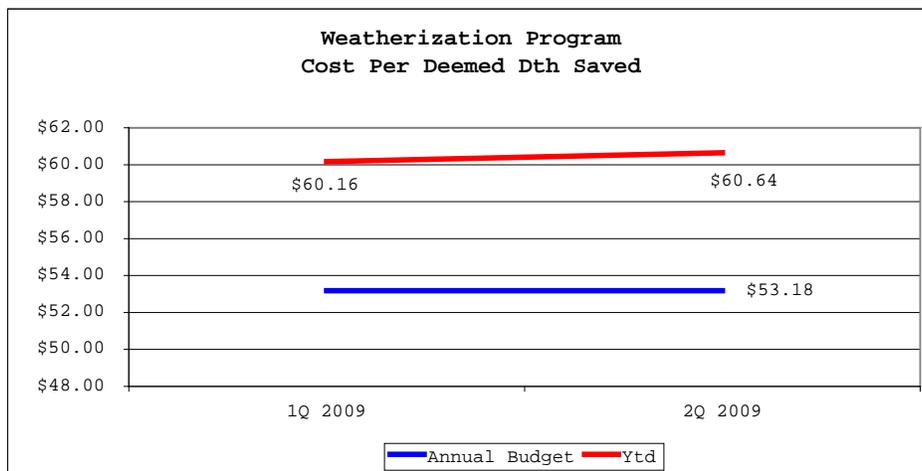
Table 2: Residential Weatherization Program Summary

A	B	C	D	E	F	G
RESIDENTIAL WEATHERIZATION PROGRAM	2009	YTD	2009	YTD	YTD \$	YTD
	Estimated	Actual	Budget	Actual Costs	% of	Dth
	Participant	Participant	(000)	(000)	Budget	Savings*
Windows - Residential	7,166	7,007	625.4	427.2	68.3%	15,108
Wall Insulation	870	1,818	323.2	665.7	206.0%	8,284
Duct Sealing	8	187	1.8	42.3	2350.0%	853
Duct Insulation - Residential	10	231	2.5	57.7	2308.0%	1,654
Roof Insulation - Residential	7,012	41,109	3142.4	18868.9	600.5%	301,903
Floor Insulation	564	1,910	167.4	680.3	406.4%	13,995
Programmable Thermostat - Residential	116	138	3.5	4.1	117.1%	294
Administrative & Overheads	NA	NA	\$ 656.7	1234.0	187.9%	NA
	15,746	52,400	\$ 4,922.9	\$ 21,980.2	446.5%	342,091

*Savings reflects the net Dth deemed savings based on actual participants with an 80% net-to-gross ratio app

Another aspect of the YTD expenditures is a comparison of the budgeted and actual costs per decatherm (Dth) of savings. Figure 1 shows the comparison between the budgeted cost per deemed Dth saved and the YTD cost per deemed Dth saved² for the ThermWise Weatherization Program.

Figure 1: Weatherization Program Costs Per Decatherm of Savings



This figure indicates actual costs per deemed Dth saved are higher than anticipated in the budget: more than \$60 per Dth saved compared to a budgeted cost of \$53 per Dth saved. This is due to the Roof Insulation Measure, with the greatest participation, ranking second to last in cost per Dth saved if the measures were ranked from the most to least cost effective per Dth saved. This has the effect of increasing the weighted average cost per Dth saved for the Weatherization Program. The Programmable Thermostat Measure is most cost effective while the Wall Insulation Measure is the least cost effective in terms of deemed Dth saved.

² Costs are net of Administrative & Overhead Costs for both budget and YTD costs.

Even with these increased expenditures, the Weatherization Program's Total Resource Cost test (TRC) still remains cost effective at 2.3 times, as shown in Table 1 on page 3 (Col I ln 11).

THERMWISE MULTI-FAMILY PROGRAM

The ThermWise Multi-Family Program has exceeded its annual budget spending by over 47% at \$3.1 million and YTD participation levels are 2.1 times greater than anticipated for the entire year. Like the ThermWise Weatherization Program, QGC anticipates that the reduction in rebates amounts for the insulation programs will slow the growth in this program. In a letter to the Commission dated June 30th, QGC has now projected total spending of \$3.8 million in this program which leaves only \$0.7 million to be spent during the 2nd half of the year. As shown below, there are several measures over budget with the attic insulation, again, having the greatest participation.

	2009	YTD	2009	YTD	YTD \$	YTD
	Estimated	Actual	Budget	Actual Cost	% of	Dth
	Participant	Participants	(000)	(000)	Budget	Savings*
1 ThermWise Multi-family Program						
2						
3						
4						
5 Storage Water Heaters	44	97	\$ 2.2	\$ 4.9	222.7%	147
6 Energy Star Tier 1 Clothes Washer	220	44	\$ 11.0	\$ 2.2	20.0%	56
7 Energy Star Tier 2 Clothes Washer	220	261	\$ 16.5	\$ 19.6	118.8%	426
8 Gas Dryer	220	16	\$ 6.6	\$ 0.5	7.6%	13
9 90+ Furnaces	165	290	\$ 49.5	\$ 86.9	175.6%	1,571
10 Gas Boilers	165	1	\$ 66.0	\$ 0.4	0.6%	14
11 Wall Insulation	550	1	\$ 408.4	\$ 0.2	0.0%	2
12 Floor Insulation	220	2	\$ 77.0	\$ 0.8	1.0%	16
13 Attic Insulation	220	5,922	\$ 77.0	\$ 2,569.9	3337.5%	41,234
14 Replacement Windows	1,100	85	\$ 209.0	\$ 20.8	10.0%	736
15 Tankless Water Heater	15	2	\$ 4.5	\$ 0.6	13.3%	20
16 Solar Assisted Water Heater	5	-	\$ 3.8	\$ -	0.0%	-
17 ENERGY STAR Multi-family	165	251	\$ 41.3	\$ 62.8	152.2%	2,139
18 Administrative & Overheads	NA	NA	\$ 1,118.2	\$ 307.6	27.5%	NA
19	3,309	6,972	2,090.9	3,077.2	147.2%	46,374
20						
21 *Savings reflects the net Dth deemed savings based on actual participants with an 80% net-to-gross						
22 ratio applied.						

DSM Amortization

On February 10, 2009, QGC filed an application, with the Commission in Docket No. 09-057-05, to begin amortizing the balance of \$18.3 million in the DSM account, the balance as of January 31, 2009. The Commission approved that application, on an interim basis, in an order issued on February 26, 2009. That order increased the current DSM amortization rate to \$0.20259/Dth for the customers in the GS rate class. Since that time, the DSM account balance

has increased by an additional \$20.9 million bringing the June 30, 2009 balance to \$39.2 million as shown on page 3, in Table 1, column E, line 21. The Division anticipates QGC filing a request to begin amortizing the current balance in the DSM 182.4 account. The Division estimates the annual cost to a typical GS customer for DSM programs assuming an annual amortization of \$40 million dollars would be \$35.52³

CONCLUSION:

The Division is pleased with the success of the market transformation that is currently occurring as it benefits all rate payers by reducing usage levels. As shown above in Table 1 of this report, the TRC for all DSM programs is 2.2. The rapid acceptance of the DSM Weatherization Program's insulation measure by Questar's customer base has exceeded expectations and, as shown, is cost-effective. However, the Division is cognizant of the fact that the Dth savings are deemed or engineering based savings. A complete audit report from the Cadmus Group attempting to verify actual savings is expected to be finished by June 2010. Until that time, the real costs per Dth saved cannot be determined.

This increased participation in the insulation programs has caused QGC to reduce the rebates allowed for insulation, as already mentioned in this report, as well as request additional funding in a June 30th letter to the Commission. The real effect the reduced rebates will have in the insulation measures is not known at this time. The Division does note that in the DSM Advisory Group meeting held August 26, 2009, QGC provided a preliminary 2010 DSM budget review with an estimate of just under \$30 million for the total year, which is the amount spent YTD in this report.

Also, as previously mentioned, QGC is reimbursed by customers of the GS rate class for the total costs of the DSM programs through amortization requests, which occur no less than twice a year but can occur more often. The Division, in response to the June 30th letter and because of the June YTD costs, has requested an updated estimate of total DSM costs with August 31st actual results as well as monthly reports on the Weatherization and Multi-Family programs. Because the dollars expended for these programs are significant, the Division will explore with QGC possible ways to mitigate the effect of the costs of these programs on customers until more

³ Assumes annual GS sales of 90,000,000 Dth ($\$40,000,000/90,000,000=\$0.444*80=35.52$)

definitive Dth savings results can be verified with possible adjustments made to the DSM programs as a result of the verified Dth savings.

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