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Department of Commerce
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 23, 2010

Subject: Review of 2nd Quarter 2010 QGC DSM Programs, Docket No. 09-057-15

ISSUE:

On January 16, 2007, the Utah Public Service Commission (PSC or Commission) issued an order in Docket No. 05-057-T01 authorizing Questar Gas Company (QGC or the Company) to offer, as part of a conditional approval for the Conservation Enabling Tariff (CET) as a three year pilot program, a suite of Demand Side Management (DSM) programs to its customers also as a three year period as a pilot program.

On June 3rd, in an order approving the Settlement Stipulation in the Company's last general rate case in Docket No. 09-057-16, the Commission approved moving the CET from a pilot to an on-going program.¹ Beginning with the 2011 calendar year, pending Commission approval, the Company anticipates filing a 2011 Energy Efficiency Plan as an on-going program. The purpose of this report is to provide an overview of the Year to Date (YTD) actual results, ending June 30,

¹ Commission Order, Docket No. 09-057-16, June 3, 2010, Paragraph 20, pp 22.

2010, as they compare to the 2010 DSM budget, as approved by the Commission in Docket No. 09-057-15².

REPORT:

Eight (8) separate DSM programs, which are designed to help customers improve the efficiency of their natural gas consumption, are in the 2010 QGC DSM budget plan. 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 2010 annual budget for the DSM Programs is \$36.1 million. Seven programs contain multiple offerings or measures designed to help customers reduce their natural gas consumption. They are (1) the **ThermWise Appliance Rebates Program**, (2) the **ThermWise Multi-Family Rebates Program**, (3) the **ThermWise Business Rebates Program**, (4) the **ThermWise Builder Rebates Program**, (5) the **ThermWise Home Energy Audit Program**, (6) the **ThermWise Weatherization Program** and (7) the **ThermWise Business Custom Rebates Program**. QGC's DSM programs also include, in addition to the **Market Transformation Program**, a **Low Income Weatherization Assistance Program** that adds annual funding of an additional \$500,000, bringing the total annual amount provided by QGC to \$750,000 to the Low Income Weatherization Assistance 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.

2010 2nd QUARTER DSM PROGRAM SUMMARY

Table 1, on the next page, compares, by program, the actual YTD expenditures through the 2nd Quarter of 2010 with the 2010 annual budget. This table shows a total YTD expenditure of \$18.9 million through June 30, 2010 (Col E ln 15), which is 52.4% of the annual budget.

² Commission Order, Docket No. 09-057-15, January 12, 2010.

Table 1: DSM Energy Efficiency Report Summary

QUESTAR GAS COMPANY
DSM ENERGY EFFICIENCY REPORT
YEAR TO DATE THROUGH June 30, 2010
DOCKET NO. 09-057-15

	A	B	C	D	E	F	G	H	I	
		2010	YTD	2010	YTD	YTD \$	YTD	2010	TRC	
		Estimated	Actual	Budget	Actual Costs	% of	Dth	Dth	B/C	
		Participants	Participants	(000)	(000)	Budget	Savings*	Savings*	Ratio	
1										
2										
3										
4										
5	ThermWise Appliance	32,646	24,712	\$ 5,229.1	\$ 3,648.8	69.8%	95,036	128,794	1.9	
6	ThermWise Multi-family	12,530	2,051	\$ 3,218.1	\$ 742.5	23.1%	9,244	51,212	1.2	
7	ThermWise Builder	2,593	2,025	\$ 2,018.4	\$ 1,249.2	61.9%	26,900	34,643	1.9	
8	ThermWise Business	1,847	686	\$ 895.6	\$ 520.1	58.1%	27,396	51,424	3.9	
9	ThermWise Custom Business	15	20	\$ 357.8	\$ 131.4	36.7%	4,416	7,513	1.5	
10	ThermWise Audit	3,773	1,109	\$ 718.5	\$ 381.2	53.1%	3,089	9,699	0.6	
11	ThermWise Weatherization	91,581	51,882	\$ 21,831.3	\$ 11,248.0	51.5%	277,279	512,429	2.6	
12	Market Transformation	NA	NA	\$ 1,356.5	\$ 761.5	56.1%	NA	NA	0.0	
13	Low Income Weatherization	NA	NA	\$ 500.0	\$ 250.0	50.0%	NA	NA	0.0	
14	Total	144,985	82,485	\$ 36,125.3	\$ 18,932.7	52.4%	443,360	795,714	2.3	
15	DSM Interest				\$ 1,005.0					
16	DSM Amortization				\$ (23,916.4)					
17	DSM General Administration				\$ -					
18	R&D Funds Transfer				\$ -					
19	YTD Change Acct 82400				\$ (3,978.7)					
20	December 2009 Acct 82400 Bal				\$ 40,502.5					
21	Ending Balance Acct 82400				\$ 36,523.8					
22	*Savings reflects the net Dth deemed savings based on actual participants with an 80% net-to-gross ratio applied.									

Of the total \$18.9 million spent year-to-date, \$17.9 million was spent in the aforementioned seven DSM programs that contain multiple energy efficiency measures. Of this \$17.9 million, 82.7% or \$14.8 million is for rebates paid to customers while the other 17.3% is for administrative expenses (exclusive of \$1.0 million in the Market Transformation and Low Income Weatherization programs). This compares to the 2010 DSM budget amount of \$26.5 million or 77.3% of the \$36.1 million, which was budgeted for rebate payments.

As shown in column F of Table 1, all programs, with the exception of the ThermWise Appliance, Builder, Multi-family, and Custom Business programs, are tracking close to the expected percentage of budgeted expenditures through the second quarter. In this report, the Division will primarily focus on these four programs.

THERMWISE APPLIANCE PROGRAM

Through the 2nd quarter of 2010, the ThermWise Appliance program has spent 69.8% of its annual budget with deemed decatherms saved at 73.8% of budget while participation is 75.7% of budget.³

Table 2 below, for the Appliance Program, shows that all measures, with the exception of the tier 2 water heaters, have reached their expected budgeted expenditures by at least 60% and that the

³ On August 12, the Company notified the Commission, by mail, that the Appliance Program has reached 81% of its annual budget amount during the month of July.

Energy Star Tier 1 Clothes Washer has already exceeded its annual budget (Column F). The Company reports that tier 2 water heaters are not readily available in the market place, possibly due to the cost differential between a tier 1 and tier 2 water heater which currently maybe as high as \$1,000.

Table 2

QUESTAR GAS COMPANY
THERMWISE APPLIANCE PROGRAM
YEAR TO DATE THROUGH June 30, 2010
DOCKET NO. 09-057-15

A	B	C	D	E	F	G
	2010 Estimated Participants	YTD Actual Participants	2010 Budget (000)	YTD Actual Costs (000)	YTD \$ % of Budget	YTD Dth Savings*
1 RESIDENTIAL APPLIANCE PROGRAM						
2 Energy Star Clothes Washer - Tier 1	2,200	2,231	\$ 110.0	\$ 111.6	101.5%	2,820
3 Energy Star Clothes Washer - Tier 2	17,000	12,512	\$ 1,275.0	\$ 938.4	73.6%	20,420
4 High Efficiency Gas Clothes Dryer - Residential	2,800	1,900	\$ 84.0	\$ 57.0	67.9%	1,550
5 High Efficiency Gas Water Heater - Tier 1	2,450	2,132	\$ 122.5	\$ 106.6	87.0%	3,241
6 High Efficiency Gas Water Heater - Tier 2	50	1	\$ 5.0	\$ 0.1	2.0%	4
7 Tank Less Gas Water Heater - Residential	700	660	\$ 210.0	\$ 198.0	94.3%	6,732
8 High Efficiency Gas Furnace	7,300	5,147	\$ 2,190.0	\$ 1,544.0	70.5%	58,470
9 Residential Boiler	114	108	\$ 45.6	\$ 43.2	94.7%	1,547
10 Solar Assisted Water Heating	32	21	\$ 24.0	\$ 15.8	65.8%	252
11 Administrative & Overheads	NA	NA	\$ 1,163.0	\$ 634.1	54.5%	NA
12	32,646	24,712	\$ 5,229.1	\$ 3,648.8	69.8%	95,036
13						
14						
15						
16						
17	*Savings reflects the net Dth deemed savings based on actual participants with an 80% net-to-gross ratio applied.					

The Appliance Program is cost effective based on its Total Resource Cost test (TRC) score of 1.9, as shown above in Table 1(Col I Ln 5).

THERMWISE BUILDER PROGAM

The ThermWise Builder Program is designed to offer builders (both contractors and self-build) who use energy efficient construction techniques, as well as energy efficient appliances, specific rebates for Energy Star Certified homes and High Performance homes (which are homes that exceed the 2004 IECC standards by at least 50%), as well as rebates for specific appliance installations. As shown in Table 3 below, the Builder Program has spent 61.9% of its budget (Col F, Ln 10). Decatherms saved is 77.6% of budget and customer participation is 78.1%. These numbers are driven by the Energy Star Certified Homes and 90% Furnace measures, both of which are above 80% of the annual budget in both rebates paid and customer participation.

Table 3

QUESTAR GAS COMPANY
THERMWISE BUILDER PROGRAM
YEAR TO DATE THROUGH June 30, 2010
DOCKET NO. 09-057-15

Ln #	A	B		C		D		E		F		G	
		2010 Estimated Participants	YTD Actual Participants	2010 Budget (000)	YTD Actual Costs (000)	YTD \$ % of Budget	YTD Dth Savings*						
	THERMWISE BUILDER PROGRAM												
1	Basic Energy Star Specifications - IECC plus 15% m	1,292	1,046	\$ 646.0	\$ 523.0	81.0%	19,598						
2	High Efficiency Gas Water Heater - Tier 1	45	16	\$ 2.3	\$ 0.8	35.6%	24						
3	High Efficiency Gas Water Heater - Tier 2	5	-	\$ 0.5	\$ -	0.0%	-						
4	Tank Less Gas Water Heater - Home Builder	100	31	\$ 30.0	\$ 9.3	31.0%	316						
5	90% Plus AFUE Condensing Gas Furnace - Home Builder	1,066	910	\$ 319.8	\$ 273.0	85.4%	6,625						
6	Gas Boiler	50	19	\$ 20.0	\$ 7.6	38.0%	272						
7	Solar Assisted Water Heater	5	1	\$ 3.8	\$ 0.8	21.3%	12						
8	High Performance Homes	30	2	\$ 24.0	\$ 1.6	6.7%	53						
9	Administrative & Overheads	NA	NA	\$ 972.1	\$ 433.1	44.6%	NA						
10		2,593	2,025	\$ 2,018.4	\$ 1,249.2	61.9%	26,900						
11													
12	*Savings reflects the net Dth deemed savings based on actual participants with an 80% net-to-gross ratio applied.												

THERMWISE CUSTOM BUSINESS PROGRAM

The ThermWise Custom Business Program is designed for customer specific applications and requires longer development time before results are achieved. Year-to-date through the 2nd quarter, 36.7% of the budgeted costs have been spent. However, actual participants have exceeded budgeted participants by 33% while year-to-date decatherm savings are 58.8% of budgeted savings. The Company reports that during the 2nd quarter, the Burger King Hamburger chain installed 16 broilers which resulted in lower decatherm savings than what the budget assumed per generic project.

Table 4

QUESTAR GAS COMPANY
THERMWISE CUSTOM PROGRAM
YEAR TO DATE THROUGH June 30, 2010
DOCKET NO. 09-057-15

Ln #	A	B		C		D		E		F		G	
		2010 Estimated Participants	YTD Actual Participants	2010 Budget (000)	YTD Actual Costs (000)	YTD \$ % of Budget	YTD Dth Savings*						
4	BUSINESS CUSTOM REBATES PROGRAM												
5	Business Custom Rebates Total	15	20	\$ 75.1	\$ 35.5	47.3%	4,416						
6	Administrative & Overheads		NA	\$ 282.7	\$ 95.9	33.9%	NA						
7		15	20	\$ 357.8	\$ 131.4	36.7%	4,416						
8	1) NB - Not Budgeted, no participation anticipated												
9	*Savings reflects the net Dth deemed savings based on actual participants with an 80% net-to-gross ratio applied.												

THERMWISE MULTI-FAMILY PROGRAM

Unlike last year at this time, where the ThermWise Multi-Family Program exceeded its annual budget spending by over 47% and YTD participation levels were 2.1 times greater than anticipated for the entire year due to the attic insulation measure, this year, 23% of the budget had been spent while only 16% of the expected participation has been realized. Even though, as shown below in table 5 (ln 12-14), the insulation measures are not as robust as last year, the Energy Star Multi-Family measure (ln 21) has already exceeded budgeted expectations in participation levels, rebates paid and expected decatherms saved. The Replacement Windows measure as well as both the Tier 1 and Tier 2 Clothes Washer measures are also ahead of expected plan levels at this time (lns 7,8,16).

Table 5

QUESTAR GAS COMPANY
THERMWISE MULTIFAMILY PROGRAM
YEAR TO DATE THROUGH June 30, 2010
DOCKET NO. 09-057-15

A	B	C	D	E	F	G
	2010 Estimated Participants	YTD Actual Participants	2010 Budget (000)	YTD Actual Costs (000)	YTD \$ % of Budget	YTD Dth Savings*
5 Storage Water Teir 1	145	18	\$ 7.3	\$ 0.9	12.4%	27
6 Storage Water Teir 2	5	-	\$ 0.5	\$ -	0.0%	-
7 Energy Star Tier 1 Clothes Washer	100	77	\$ 5.0	\$ 3.9	78.0%	97
8 Energy Star Tier 2 Clothes Washer	450	358	\$ 33.8	\$ 26.9	79.7%	584
9 Gas Dryer	50	13	\$ 1.5	\$ 0.4	26.7%	11
10 90+ Furnaces	500	198	\$ 150.0	\$ 59.4	39.6%	1,072
11 Gas Boilers	5	1	\$ 2.0	\$ 0.4	20.0%	14
12 Wall Insulation	10	4	\$ 5.0	\$ 0.2	4.0%	4
13 Floor Insulation	10	-	\$ 2.0	\$ -	0.0%	-
14 Attic Insulation Teir 1	2,250	489	\$ 450.0	\$ 76.7	17.0%	2,148
15 Attic Insulation Teir 2	250	45	\$ 17.5	\$ 3.3	18.9%	65
16 Replacement Windows	150	314	\$ 28.5	\$ 18.8	66.0%	667
17 Tankless Water Heater	100	9	\$ 30.0	\$ 2.7	9.0%	92
18 Solar Assisted Water Heater	5	-	\$ 3.8	\$ -	0.0%	-
19 Duct Sealing	4,000	-	\$ 500.0	\$ -	0.0%	-
20 Duct Insulation	4,000	2	\$ 600.0	\$ 0.3	0.1%	7
21 ENERGY STAR Multi-family	500	523	\$ 125.0	\$ 130.8	104.6%	4,456
22 Administrative & Overheads	NA	NA	\$ 1,256.4	\$ 417.8	33.3%	NA
	12,530	2,051	\$ 3,218.1	\$ 742.5	23.1%	9,244

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

OTHER PROGRAMS

Table 6 shows only the Business program measures that have already exceeded or are ahead of expected annual budget rebate levels at this time⁴.

Table 6

QUESTAR GAS COMPANY THERMWISE BUSINESS PROGRAM YEAR TO DATE THROUGH June 30, 2010 DOCKET NO. 09-057-15						
	2010 Estimated Participants	YTD Actual Participants	2010 Budget (000)	YTD Actual Costs (000)	YTD \$ % of Budget	YTD Dth Savings*
1 COMMERCIAL REBATE PROGRAM						
7 High Efficiency Gas Water Heater - Commercial	35	11	\$ 5.3	\$ 5.6	106.7%	391
8 High Efficiency Gas Water Heater - Commercial Tankl	25	20	\$ 3.8	\$ 7.8	207.9%	551
9 High Efficiency Gas Water Heater - Commercial Tankl	5	3	\$ 0.8	\$ 1.4	186.2%	99
15 High Efficiency Gas Unit Heater > 90%	8	84	\$ 10.6	\$ 117.8	1115.5%	2,671
19 High Efficiency Boiler Hot Water	10	3	\$ 2.0	\$ 1.4	70.0%	98
20 High Efficiency Boiler Hot Water Tier 2	15	32	\$ 14.6	\$ 178.8	1222.6%	14,932
31 High Efficiency Convection Oven	10	10	\$ 10.0	\$ 10.0	100.0%	258
34 Building Shell Windows New Construction	5	4	\$ 8.4	\$ 7.2	85.7%	255
39 Building Shell Roof Insulation Retrofit	8	230	\$ 9.6	\$ 10.6	110.4%	329
43 TOTAL	1,847	686	\$ 895.6	\$ 520.1	58.1%	27,396

44
45 *Savings reflects the net Dth deemed savings based on actual participants with an 80% net-to-gross ratio applied.

Even though only 37.1% of budgeted participants have received rebates, 58.1% of the budgeted dollars have been paid (driven mainly by the High Efficiency Gas Unit heater and the High Efficiency Boiler Hot Water Tier 2 measures) resulting in 53.3% of the budgeted deemed Dth savings being realized.

Table 7 shows that, as a whole, the Weatherization program is tracking at expected budgeted levels. However, the window replacements, duct sealing, duct insulation and programmable thermostats measures are all above expected levels at this time.

Table 7

QUESTAR GAS COMPANY THERMWISE WEATHERIZATION PROGRAM YEAR TO DATE THROUGH June 30, 2010 DOCKET NO. 09-057-15						
A	B	C	D	E	F	G
RESIDENTIAL WEATHERIZATION PROGRAM	2010 Estimated Participants	YTD Actual Participants	2010 Budget (000)	YTD Actual Costs (000)	YTD \$ % of Budget	YTD Dth Savings*
5 Windows - Residential	13,873	11,196	873.9	658.3	75.3%	23,282
6 Wall Insulation	3,313	1,355	862.2	311.2	36.1%	5,810
7 Duct Sealing	2,302	2,841	518.0	639.2	123.4%	12,955
8 Duct Insulation	2,694	2,347	673.5	586.8	87.1%	16,805
9 Roof Insulation - Tier 1	52,575	26,603	14,139.4	7188.4	50.8%	201,277
10 Roof Insulation - Tier 2	14,868	6,668	1,296.8	629.9	48.6%	12,238
11 Floor Insulation	1,840	748	397.0	125.9	31.7%	4,535
12 Programmable Thermostat - Residential	116	93	3.5	2.8	80.5%	198
13 Audit Efficiency Measures (1)		-				
14 Administrative & Overheads	NA	NA	3067.0	1094.0	35.7%	NA
15	91,581	51,882	\$ 21,831.3	\$ 11,248.0	51.5%	277,279

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

⁴ There are 37 separate measures available to customers under the ThermWise Business Program.

DSM Amortization

On June 24, 2010, QGC filed an application with the Commission in Docket No. 10-057-11 to begin amortizing an expected \$36.0 million balance in the deferred DSM account, a decrease of \$4.0 million from the previous amount requested in Docket No. 09-057-14. The actual May 31, 2010 balance in the DSM account was \$33.4 million. The Division recommended to the Commission to approve the amount of \$36.0 million based on a projection that \$36.0 million will be spent in 2010 on the DSM programs. The Commission approved that application on an interim basis in an order issued on July 29th 2010. That order decreased the current DSM amortization rate from \$0.45/Dth to \$0.38/Dth for the customers in the GS rate class. Based on this reduced rate, the estimated annual cost to a typical GS customer for DSM programs, assuming an annual amortization of \$36 million dollars, would be \$30.01⁵, an annual decrease of \$5.98 from the previous amortization level.

CONCLUSION:

The Division is pleased with the success of the Energy Efficiency Programs initiated by Questar as they benefit all rate payers by reducing usage levels. As shown above in Table 1 of this report, the TRC for all Energy Efficiency programs is 2.3. Last year's history of the rapid acceptance of the Weatherization Program's insulation measure by Questar's customer base exceeded all expectations and, as shown above in Table 1, the over-all program's TRC is cost-effective at 2.6 (Ln 11 col I). However, the Division is cognizant of the fact that the Dth savings are deemed or engineered based savings. A complete audit report from the Cadmus Group attempting to verify actual savings is expected to be finished by September 2010.

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. Because of this fact, the Division urges all GS customers to participate in the programs in order to take advantage of the energy savings provided by the programs. Also, because the dollars expended for these programs are significant, the Division,

⁵ Assumes annual GS sales of 95,936,000 Dth ($\$36,000,000/95,936,000=\$0.375*80=30.01$)

along with the DSM Advisory Board will explore with QGC possible ways to improve the benefit cost ratios of these programs by altering some measures for the upcoming 2011 budget year.

Cc: Barrie McKay, Questar Gas Company
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