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**To: Utah Public Service Commission**

From: Division of Public Utilities  
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Date: July 7, 2008

Subject: Action Request Docket No. 08-057-12, QGC 2008-09 IRP Report.

**RECOMMENDATION**

The Division recommends to the Utah Public Service Commission (“PSC”) that the IRP plan filed by Questar Gas Company (“QGC”) be ‘acknowledged’ for reasons discussed in the IRP Process Comments section. ‘Acknowledgement’ of the Plan means the Commission deems the planning process and the Plan itself reasonable at the time the Plan is presented. “Acknowledgement of an acceptable Plan will not guarantee favorable ratemaking treatment of future resource acquisitions.”<sup>1</sup>

**HISTORY**

Since the early 1990s, QGC, formerly known as Mountain Fuel Supply Company, has been filing Integrated Resource Plans (“IRP”) with the PSC.

The purpose of the IRP filing is to provide regulators with an update of the “process in which known resources are evaluated on a uniform basis, such that customers are provided quality natural gas services at the lowest cost to QGC and its customers consistent with safe and reliable service.”<sup>2</sup> For planning purposes, the time period of this process runs from May of the current year through April of the following year. The plan reviews the demand forecasts, gas supply resources, system delivery and storage capabilities, as well as any constraints that are foreseen within the next several years.

<sup>1</sup> Final Standards and Guidelines for Integrated Resource Planning for Mountain Fuel Supply Docket No. 91-057-09.

<sup>2</sup> Proposed IRP Guidelines for Questar Gas Company, Docket No. 97-057-06, p 1.

In order to make these projections, which require a multitude of interrelated variables and processes, QGC utilizes a powerful computer model called SENDOUT which has been designed specifically for local natural gas distribution systems. This computer model is marketed and maintained by New Energy Associates out of Atlanta, Georgia. QGC used version 12.1.1 in the preparation of the IRP for the 2008-2009 year.<sup>3</sup>

Originally, QGC's IRP filing was on a biennial schedule with an annual update in the intervening years.<sup>4</sup> In December 1997, Mountain Fuel Supply Co. ("QGC") submitted, to the PSC, a petition to modify the Final Standards and Guidelines for Integrated Resource Planning.

Subsequent to that filing, QGC met with the staffs of the Committee of Consumer Services ("CCS") and the Division of Public Utilities ("DPU") and developed a new set of proposed guidelines. Under these new guidelines, QGC is to prepare and file annually a new IRP. In addition, QGC is required to prepare and file with the PSC, DPU and CCS confidential quarterly reports that update the differences between actual results and those projected in the IRP. Questar's final IRP report also considers comments from regulators and other parties obtained during meetings held with regulators to discuss assumptions and events that are taking place, or expected to take place, regarding natural gas markets, demand forecasts and system capabilities or constraints. This process was followed in the preparation of the current annual IRP of QGC.

The following is a brief discussion of the major components found in the current IRP for the plan year May1, 2008 through April 30, 2009.

## **CUSTOMER & GAS DEMAND FORECASTS**

For the calendar year of 2008, QGC is expecting system sales to increase by 700,000 decatherms from 2007's level of 103.6 million. This increase is due to expected continued growth in new customers, while estimating a lower usage per customer. Usage is estimated to be 105.2 decatherms by the end of 2008 compared to 106.3 for the end of 2007 or approximately a 1.03% decline in usage per customer. QGC attributes this decline in usage to a combination of more efficient gas appliances in the market, more energy efficient new homes, as well as conservation measures undertaken by customers due to the increase in the price of natural gas over the past couple of years.

## **SYSTEM CONSTRAINTS AND CAPABILITIES**

With the rapid customer growth anticipated on QGC's distribution system, system capacity is always a concern, albeit not as big an issue as the cost of gas supplies, which currently is the focus of regulators and consumers, both nationally and locally.

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<sup>3</sup> Questar Gas Company Integrated Resource Plan (For Plan Year: May 1, 2008 to April 30, 2009) pp. 2-5.

<sup>4</sup> Docket 95-057-04, p 1.

For planning and meeting supply requirements, QGC separates its distribution system into three distinctive areas. Those areas or systems are the Northern System, the Central System and the Southern System.

The Northern System, which serves the Wasatch Front, receives gas from Questar Pipeline Company (“QPL”) and Kern River Transmission Company (“KR”) at six major city gates. The Northern System currently has enough capacity to meet peak day requirements of 1,064,962 Dths for the projected 2008-2009 IRP year. In order to ensure that peak day capacity requirements can be met, QGC is constantly looking at the condition of the physical distribution system and planning for system integrity upgrades or expansion. During 2008, there are six projects that have been budgeted for construction during 2008-2009. They are (1) FL 105 West Haven, Utah at an estimated cost of \$5.1 million, (2) FL 16 Heber, Utah - estimated cost of \$3.1 million, (3) Feeder Lines 4, 5, and 1 replacement in Salt Lake City- estimated cost of \$45.0 million, (4) FL 106 Extension in Box Elder County - estimated cost of \$5.7 million, (5) FL 99 Extension in Summit County – estimated cost of \$1.6 million, and (6) FL 99 Extension to the Victory Ranch Subdivision for which the developer will pay a contribution of \$2.2 million.

The Central System, which is relatively new, is served from KR and is expected to meet current customer requirements of 5,963 Dth without any reinforcements.

The Southern System receives its gas supply from QPL at Indianola and from KR at the WECCO and Central taps. The peak day forecast for the 2008-09 season is 75,867 Dth and, there is currently sufficient capacity on the system to meet this demand.

QGC also models and reviews the Intermediate High Pressure (IHP) system to ensure that it also can meet peak day requirements. This involves checking the regulator-station capacities for proper pipe sizing and configurations. Based on the model calculations and prior modifications and reinforcements made, the current status of the IHP system is adequate for the upcoming season.

In Docket No. 04-057-03, QGC applied for and received permission to defer costs accrued for the inspections of QGC’s high pressure lines located in high consequence areas. This inspection program is a federally-mandated program and is an ongoing process to insure the integrity of the pipelines that exist in populated areas. Currently, due to a Stipulation reached in Docket No. 05-057-T01, QGC will begin to amortize, over the next five years, \$3.0 million of costs currently deferred for the pipeline inspection program. This amounts to \$0.6 million per year. In addition, QGC is authorized to collect current annual costs of up to \$1.4 million in current rates with any excess or under payment of this amount to go into a deferred account and settled at the next general rate case. This amounts to a \$2.0 million annual expense. The costs for this program could become substantially more as the system continues to age, and more and more areas of the system are found that need to be reinforced to meet the established requirements of the federal program.

The federal government continues to take an aggressive stance toward increasing pipeline safety for natural gas pipelines. The United States Congress and the U.S. Department of Transportation both continue to have a broad national agenda for increasing natural gas pipeline safety. The enactment of the “Pipeline Safety Improvement Act of 2002” and the “Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006,” resulted in rule changes and other related regulatory and non-regulatory initiatives. To comply with the federal requirements, operating and capital expenditures for Questar Gas have increased. It is likely that further increases in operating and capital expense will result from aspects of this aggressive federal agenda on pipeline safety, particularly as new distribution integrity management regulations are implemented. The Division will monitor these initiatives as required.

## PURCHASED GAS AND COMPANY PRODUCTION

As shown in the table below, during the past few years, natural gas prices have seen a dramatic increase, spiking at \$10.21/Dth in November 2005, mainly due to weather-related issues interrupting the natural gas distribution infrastructure in parts of the country. Since that November 2005 peak, prices did moderate, with the low being in October 2007. Since that time prices have steadily increased, with the forecast showing prices continuing to increase through the coming heating season.

### Natural Gas Prices

#### Questar Pipeline - First of Month Index

(Bold Italic numbers are projections)

Winter Season							
	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
October	\$1.17	\$4.00	\$4.42	\$9.48	\$2.42	\$1.36	<b>\$8.97</b>
November	\$2.78	\$3.91	\$6.55	\$10.21	\$5.80	\$3.53	<b>\$9.47</b>
December	\$3.29	\$4.31	\$5.91	\$8.46	\$5.54	\$5.85	<b>\$9.84</b>
January	\$3.09	\$5.10	\$5.47	\$8.78	\$3.71	\$5.89	<b>\$9.86</b>
February	\$3.05	\$4.92	\$5.32	\$6.39	\$6.00	\$7.89	<b>\$9.39</b>
March	\$5.00	\$4.33	\$5.38	\$5.81	\$5.79	\$7.72	<b>\$8.85</b>
Summer Season							
	2003	2004	2005	2006	2007	2008	2009
April	\$3.19	\$4.19	\$6.02	\$5.32	\$3.10	\$7.75	<b>\$8.14</b>
May	\$4.00	\$4.89	\$6.04	\$5.39	\$4.34	\$8.87	<b>\$7.67</b>
June	\$4.78	\$5.52	\$5.24	\$4.53	\$2.82	\$8.91	<b>\$7.46</b>
July	\$4.52	\$5.20	\$5.74	\$4.75	\$3.05	\$8.45	
August	\$3.87	\$5.22	\$5.75	\$5.50	\$2.78	<b>\$9.60</b>	
September	\$4.29	\$4.39	\$7.64	\$4.12	\$2.00	<b>\$9.21</b>	

Due to the price volatility in natural gas markets, QGC has embarked on a hedging program for the portion of its winter gas supply purchases that cannot be met from Company-owned production. This program consists of three basic strategies. The first strategy consists of buying approximately one-third of the estimated winter requirement at physical swap prices. The second strategy uses financial hedges, if priced prudently, for an additional one-third in order to place an upside cap on the prices. The last strategy lets the other third of the purchase requirement float with the market, which is based on the first of month price as quoted in Inside

FERC's Gas Market Report. This three-pronged approach was developed in 2000-01 through consultation with regulatory officials. Regular update meetings have been held with regulatory authorities in which input has been sought by QGC on the strategies being deployed.

The IRP gas purchase plan is based on a set of assumptions derived from the best available data at the time the IRP is put together. Throughout the plan year, actual results will vary from the plan due to circumstances that are different than the plan's assumptions. These variances have been tracked and reported on a quarterly basis. For the 2007-08 IRP three of the quarterly reports have been filed with the Commission.

For the first quarter of the 2007-08 plan-year (May-July, 2007) purchase volumes were two percent greater than the plan due to prices averaging 74.2% lower than planned, resulting in a dollar decrease variance due to the increased volumes of \$17 million. Because of lower prices in the market place company owned production was decreased 38.2 % during the first quarter.

During the second quarter of the 2007-08 plan-year (Aug-Oct, 2007), purchase volumes exceeded the plan by 66.3 percent due to low market prices, while Company-owned production was down 66.3 percent. During the second quarter, purchased gas and Company-owned production costs were \$20 million below plan. For the six months ending October 2007, firm sales almost matched the cumulative IRP estimate. With lower prices in the market, QGC decreased the Purchase Gas Adjustment from \$5.37 /Dth to \$4.85/Dth in Docket No. 07-057-09 filed with the Commission on October 4, 2007.

With slightly below normal weather in November and much colder than normal weather during December 2007 and January 2008, purchase volumes exceeded plan by 32% while Company production was 9% below plan levels. Gas purchase prices averaged 32% below plan for the quarter resulting in purchase cost that was \$5.3 million lower than plan amounts. Firm sales exceeded plan during December and January resulting in cumulative sales above plan for the year. With lower market prices, increased gas purchases have resulted in Clay Basin ending inventory 49% higher than forecasted in the IRP plan.

The 2008-09 IRP reflects Company-owned production of 51.6 MDth and gas purchase volumes of 65.3 MDth at an average price of \$7.79/Dth. For plan purposes the price of natural gas peaks during January 2009 at \$9.86/Dth. Currently, the Company is anticipating that for the upcoming year, a mixture of purchase gas supply will be hedged with fixed price swaps and as well as purchased at the first-of-month spot price. The exact amounts of each will depend on the trends in the spot market as compared to forecasts. The current FOM price for July of \$8.45/Dth is \$1.45/Dth lower than anticipated in the IRP.

The Division recognizes the price volatility that still exists in the natural gas markets and the complexity of the interaction between the variables used in preparing an IRP. As actual events unfold, it is a given that actual results will vary from the planned IRP. QGC will continue meetings to keep regulators informed about the magnitude and the reasons for any variance that will occur from the base plan of this 2008-09 IRP. The Division feels that the current strategy

being followed does provide a degree of stability but also recognizes the risks associated from locking in with physical swaps when compared to actual spot purchases. However, due to the current market volatility, the Division feels the risk of rising prices more than mitigates the risk of missing a market on the down-swing.

## **GATHERING, TRANSPORTATION & STORAGE**

Most of the Company-owned gas produced by WEXPRO is gathered under the System Wide Gathering agreement between Questar Gas and Questar Gas Management. This agreement is based on cost-of-service which was approved by the Commission in Docket No's. 95-057-30, 96-057-12 and 97-057-11. The rates change each year on September 1<sup>st</sup>. The table below is summarized the history of the one-part cost-of-service rate broken out between the monthly reservation charge and the commodity charge. The billing determinant for the commodity rate is based on the previous calendar-year gathering-system throughput. The overall rate increased approximately 34% from last year. Higher natural gas prices have stimulated drilling programs across the country and particularly in the Rocky Mountains. Consequently, the need for more gathering connections has arisen. The costs for constructing gathering connections have increased dramatically. Much of the increase in the system-wide gathering rate can be attributed to drilling programs in Pinedale and the Vermillion Basin and the need to hook up more new wells. The remote location of Pinedale relative to interstate transmission systems has also contributed to cost increases. The Division will continue to monitor these costs as we complete the audit of the 191 account.

Effective Date	One-Part Rate (\$/Dth)	Monthly Reservation Charge (\$)	Commodity Charge (\$/Dth)
9/1/1993	0.55682	844,610	0.22273
9/1/1994	0.55682	844,610	0.22273
9/1/1995	0.48295	761,644	0.19318
9/1/1996	0.48295	761,644	0.19318
9/1/1997	0.34956	432,668	0.13982
9/1/1998	0.33282	394,284	0.13313
9/1/1999	0.28656	379,372	0.11463
9/1/2000	0.26276	361,552	0.10510
9/1/2001	0.24863	376,435	0.09945
9/1/2002	0.28413	390,229	0.11365
9/1/2003	0.27273	473,384	0.10909
9/1/2004	0.28067	496,173	0.11227
9/1/2005	0.30718	541,336	0.12287
9/1/2006	0.34424	628,108	0.13770
9/1/2007	0.48664	888,053	0.19148

For a number of years, Questar Gas has received processing services from QTS, a subsidiary of Questar Pipeline at its Castle Valley Processing Plant near Price, Utah. This plant removed carbon dioxide from coal-bed methane produced in the vicinity. Effective January 31, 2008, Questar Gas no longer receives these processing services and the network segment including these costs in the SENDOUT model has been removed.

Questar Gas is party to three storage contracts at Clay Basin, each of which expires at a different time. One of these contracts, for 3.5 Bcf of firm working gas capacity, had an expiration date for its primary term of April 30, 2008. This increment of capacity represents approximately 28% of Questar Gas's total annual working gas volume at Clay Basin. During the summer of 2006, Utah regulators requested that SENDOUT modeling analysis be conducted to determine if additional base-load storage was desirable as a natural gas price hedge for winter-heating-season supplies. That study concluded that a significant block of new incremental storage capacity was not cost effective at that time. The SENDOUT model, however, fully utilized the existing capacity available to it. On October 30, 2007, Questar Gas requested that its contract 988 be extended effective December 1, 2007, through April 30, 2017, ensuring that this key resource will continue to be available. This expiration date coincides closely with the expiration date of the primary term of Questar Gas's MT241 transportation agreement with Questar Pipeline. This contract extension for Clay Basin storage was procured under the same rate schedule in Questar Pipeline's gas tariff as invoiced previously.

## **DEMAND-SIDE RESOURCES**

Since the inception of formal integrated resource planning processes in the states of Utah and Wyoming, QGC has periodically investigated the potential of demand-side resources. The first such assessment took place in 1991. The current initiative has its roots in a general rate case filed by QGC on May 3, 2002. On December 30, 2002, the PSC issued an Order stating that the DSM Stipulation was in the "public interest."<sup>5</sup> The Order established a collaborative study group, known as the Natural Gas DSM Advisory Group ("Advisory Group"), and was ordered by the PSC to report on the possible cost-effective DSM measures in Utah.

The DSM Stipulation specified that a jointly funded study of achievable, cost-effective DSM measures in Utah be undertaken. GDS Associates Inc. was the successful bidder for the Utah Natural Gas DSM study. The final GDS Report concluded that ". . . there is significant savings potential in Utah for implementation of additional and long-lasting gas energy-efficiency measures."<sup>6</sup>

The Advisory Group determined that the GDS Report was a "credible indicator" of the potential for cost-effective demand-side management and also identified several barriers to natural gas

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<sup>5</sup> In the Matter of the Application of Questar Gas Company for a General Increase in Rates and Charges, Report and Order, Utah Public Service Commission, Docket No. 02-057-02, December 30, 2002.

<sup>6</sup> "The Maximum Achievable Cost Effective Potential for Gas DSM in Utah for the Questar Gas Company Service Area," Final Report, Prepared for the Utah Natural Gas DSM Advisory Group, June 2004, GDS Associates, Inc. Engineers and Consultants, Marietta, GA, Page 1.

DSM implementation. The report specifically identified as an example, QGC's "economic sensitivity to the loss of gas load that increased DSM would foster."<sup>7</sup>

On December 16, 2005, QGC, the DPU, and Utah Clean Energy filed a joint application requesting the approval of a pilot program that would put into application the Conservation Enabling Tariff Adjustment Option (CET).<sup>8</sup> On January 16, 2007, the Commission issued an order approving a three year pilot program of DSM initiatives undertaken by QGC. As part of that order, the Division was to prepare a first year evaluation report and file it with the Commission. This report was filed with the Commission on July 25, 2007 in Docket No. 05-057-T01.

Based on work with the Advisory Group, Utah-based trade allies, program administrators and other energy-efficiency stakeholders, the Company proposed and the Utah Commission approved the continuation of the six (the Home Energy Audit and Weatherization Rebates programs were split into separate programs in 2008) DSM programs from 2007. This continuation included the update and/or revision of certain program measures to improve customer uptake and/or program cost effectiveness. These programs will be reviewed as part of the quarterly reports that the Division submits to the Commission.

## **IRP PROCESS COMMENTS**

On June 4, 2007, the PSC issued a Request for Comments giving parties until July 2, 2007 to file comments not only on the IRP itself but also regarding the approved IRP process (Docket No. 07-057-01) and invited parties to make recommendations regarding whether changes should be made to the process. Based on the review of the Company's 2007 Integrated Resource Plan in Docket 07-057-01, "In the Matter of the Filing of Questar Gas Company's Integrated Resource Plan for the Plan Year: May 1, 2007 to April 31, 2008," the PSC determined it was appropriate to re-evaluate and revise the September 26, 1994, IRP Standards and Guidelines.

The December 14, 2007, Report and Order in Docket 07-057-01 specified a new docket will be opened to address modification to the Standards and Guidelines. Pursuant to this Report and Order, Docket 08-057-02, "In the Matter of the Revision of Questar Gas Company's Integrated Resource Planning Standards and Guidelines" was established. After due notice, on February 13, 2008, a technical conference was held to obtain input, ideas, and feedback regarding modifications to the September 26, 1994, IRP Standards and Guidelines. Based upon the discussion of specific topics during the technical conference, Draft Standards and Guidelines 2008 have been developed. On April 3, 2008 the PSC issued Draft Questar Gas Company Integrated Resource Planning Standards and Guidelines 2008 ("Draft Standards and Guidelines 2008") and invited comments from interested parties. The Division submitted comments to the

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<sup>7</sup> Ibid

<sup>8</sup> "Joint Application of Questar Gas Company, the Division of Public Utilities, and Utah Clean Energy", Docket No. 05-057-T01, December 16, 2005.

Commission on May 30, 2008 and will review and follow the Commission's order when it is released.

In its Report and Order in Docket 07-057-01, the Commission required that, in the interim, QGC to continue with its current IRP approach and time lines, but outlined eleven items that were to be included in the 2008 and future IRPs.<sup>9</sup> In its review of the current IRP, the Division has concluded that QGC included the information as directed in the order.

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<sup>9</sup> In the Matter of the Filing of Questar Gas Company's Integrated Resource Plan for Plan Year: May 1, 2007 to April 30, 2008, Docket No. 07-057-01, December 14, 2007, pp.18-20.