

## PURCHASED GAS

### Local Market Environment

Monthly index prices for natural gas delivered into Questar Pipeline’s system during the 2010 calendar year averaged \$3.83 per Dth. This was higher than the 2009 average price of \$3.02 per Dth, an increase of \$0.81 per Dth or 27%. The 2009 and 2010 monthly index prices are provided in Table 5.1 below.

<b>Table 5.1 Questar Pipeline First-of-Month (FOM) Index Price per Dth</b>			
<b>Month</b>	<b>2009</b>	<b>2010</b>	<b>Difference</b>
Jan	\$4.21	\$5.55	\$1.34
Feb	\$2.87	\$5.06	\$2.19
Mar	\$2.43	\$4.47	\$2.04
Apr	\$2.28	\$3.56	\$1.28
May	\$2.46	\$3.62	\$1.16
Jun	\$2.40	\$3.50	\$1.10
Jul	\$2.61	\$3.91	\$1.30
Aug	\$2.85	\$3.60	\$0.75
Sep	\$2.39	\$2.57	\$0.18
Oct	\$3.30	\$3.28	(\$0.02)
Nov	\$4.28	\$2.98	(\$1.30)
Dec	\$4.10	\$3.90	(\$0.20)
<b>Average</b>	<b>\$3.02</b>	<b>\$3.83</b>	<b>\$0.82</b>

The price for natural gas on Questar Pipeline during the 2009-2010 heating season (November-March) averaged \$4.69 per Dth compared to an average price of \$3.66 per Dth during the 2010-2011 heating season, a decrease of \$1.04 or 22%. The monthly index prices for the two heating seasons are provided in Table 5.2 below.

<b>Table 5.2 Questar Pipeline FOM Index Price per Dth – Heating Season</b>			
<b>Month</b>	<b>2009-2010</b>	<b>2010-2011</b>	<b>Difference</b>
Nov	\$4.28	\$2.98	(\$1.30)
Dec	\$4.10	\$3.90	(\$0.20)
Jan	\$5.55	\$3.77	(\$1.78)
Feb	\$5.06	\$4.09	(\$0.97)
Mar	\$4.47	\$3.54	(\$0.93)
<b>Average</b>	<b>\$4.69</b>	<b>\$3.66</b>	<b>(\$1.04)</b>

Current forecasts of Rockies indices reflect an average price of approximately \$3.74 per Dth through October 2011. Prices for the 2011-2012 heating season are forecast to be approximately \$4.04 per Dth.

## **Modeling Issues**

Among the most fundamental outcomes from the IRP modeling process each year is a determination of the characteristics of the portfolio of natural gas purchase contracts to be utilized by Questar Gas. A significant portion of the annual gas supply needs of the customers of Questar Gas are met with cost-of-service supplies provided under the Wexpro Agreement (see “Cost-of-Service Gas” section of this report). Supply needs not met by cost-of-service gas must be purchased from natural gas providers. Accordingly, the Company issues a request for proposal (RFP) to potential suppliers on upstream interconnecting interstate pipelines each year.

Over the years, Questar Gas has determined that the most favorable time to issue its annual RFP (soliciting proposals for natural gas supplies) is in the late-winter/early-spring time frame. During this time period, sufficient supplies for the upcoming winter heating season are likely to be available and uncommitted. Time is needed for proposals to be developed and submitted by the RFP recipients. Then, the Company needs time to extract all the data, model all the gas supply packages proposed, and complete the contracting process. In the event some of the deals do not materialize for packages selected, ample time remains before the winter heating season begins to remedy any shortfalls.

On February 23, 2011, Questar Gas sent out its RFP to 49 prospective suppliers. The RFP sought proposals for both base load and peaking supplies on the two major interstate pipeline systems interconnected with Questar Gas; Questar Pipeline and KRGT. The RFP required that base load supplies on Questar Pipeline have availabilities of 180, 150, 120 and/or 90 days. Due to the fact that 50,000 Dth/day of the 53,000 Dth/day of capacity obtained by the Company from KRGT’s 2003 Expansion Project are only available during the five winter months of November through March, the RFP required base load supplies on KRGT to have availabilities of 150, 120, and/or 90 days. Multi-year winter heating season proposals were sought on both pipelines with terms ranging from two to five years. Proposals for peaking supplies were sought on both pipeline systems having availabilities of two to four months to meet customer demands during the coldest winter heating season months.

Reliability of supplies is a critical issue for Questar Gas. The RFP required that all purchased gas proposals accepted by Questar Gas have, in the underlying confirmation letters, language specifying a \$15.00 per Dth penalty for failure to perform. All proposals were also required to have language ensuring creditworthiness and language specifying the minimum advance notice required before nomination deadlines for gas flow.

Responses to the purchased-gas RFP were due on March 8, 2011. Proposals for 284 gas supply packages were received from 17 potential suppliers. As part of the RFP requirements, submissions are required to specify if the same gas supply is offered under multiple proposals. This year supplies offered under base load proposals totaled 530,000 Dth/day, down slightly from the 569,000 Dth/day offered last year. Peaking supplies offered on Questar Pipeline's system totaled 538,000 Dth/day, up from the 365,000 Dth/day offered last year. Peaking supplies offered on KRGT totaled 933,000 Dth/day, up from last year's level of 540,000 Dth/day.

Each spring, following the receipt of all the proposals, Questar Gas reviews all the packages offered and extracts the parameters needed as data inputs to the SENDOUT model.<sup>1</sup> The pricing mechanisms utilized for each package must be identified and linked to the appropriate index price in the model. Also, the availability of receipt and delivery point capacity on the interstate pipeline system utilized must be resolved. To the extent that the same underlying gas supplies have been offered in different price and term packages, they must be identified to prevent the modeling of more gas than is actually available.

After these purchased-gas packages are entered into the SENDOUT model, the model is allowed to find an optimal linear programming solution for any one or all of the packages of natural gas. During this optimization process, the SENDOUT model only incurs costs for a package of gas if it elects to include that package. This gives the model freedom to look at all packages and optimize them in a way that utilizes the least-cost combination of resources.

This year 1,065 Monte Carlo draws were evaluated during the modeling process. At the conclusion of the modeling, the draws were analyzed to see which were preferred. Using a statistical analysis package, a procedure was used to group (or cluster) optimized draws in similar ways. "Clustering" is the assignment of a set of observations into subsets so that observations in the same cluster are similar in some sense. For Questar Gas, the clustering is performed for peak day and annual demand.

Next, a follow-up statistical procedure is used to split clusters at cluster designed levels. This year, as in other years, the cluster analysis was broken into 30 groups and plotted as representations of optimized solutions. A point on the graph represents a cluster and a cluster represents like draws. The resulting plot shows demand on the abscissa of the graph, and peak day on the ordinate axis. At a glance this plot shows how the SENDOUT model met high or low demand against peak day events.

At this point some subjectivity is used to select the cluster(s) that meet customer needs for the coming year. The preferred draws that make up the cluster area are also examined by looking at the number of times a given package of gas was chosen and the volume of that package that was most often used. The more often the SENDOUT model used a package of gas, the more favorable that package is in the optimization model.

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<sup>1</sup> The SENDOUT model and the Monte Carlo method are described in more detail in the Results section of this report.

Some subjective review of original packages is also included at this time in order to verify that an unreasonable level of purchased gas is not selected from any one vendor, that peaking versus base-load contracts are reasonable, and that packages are not unrealistically distributed between KRGT and Questar Pipeline. Once this screening is completed the most frequently used packages emerge from the RFP process and are finalized with suppliers.

Questar Gas includes in its modeling process each year the availability of supplies that can be purchased from the Company's interruptible transportation customers in the states of Utah and Wyoming. As a condition to receiving interruptible transportation service, the Company's Utah and Wyoming tariffs allow for the purchase of these supplies during periods of interruption for the benefit of Questar Gas' firm sales customers. Upon notice by the Company, interruptible transportation customers are required to nominate levels of this resource as specified by the Company. The Company can purchase these supplies at the interconnecting upstream pipeline receipt point and use its own transportation capacity, or the purchase can take place at Questar Gas' city gates. The tariffs specify a predetermined pricing mechanism for payment for these supplies. Questar Gas has planned on the availability of 50,000 Dth/day of this resource for its SENDOUT modeling process this year, for the months of December through February.

The levels of purchased-gas packages selected from the SENDOUT modeling process this year are shown in the Results section of this report. The median purchased-gas volumes from the Monte Carlo simulation for the upcoming gas-supply year are shown by month in Exhibits 9.53 to 9.64 along with each probability distribution. Individual packages of purchased-gas supplies for the base case are shown for the first two plan years in Exhibits 9.84 and 9.86. Commitments to purchase were made with suppliers on April 18, 2011.

### **Price Stabilization**

During the winter of 2000-2001, the Office, Division and the Utah Commission developed a working depth of knowledge through information provided by the Company and seminars from outside consultants.

On May 31, 2001, the Utah Commission approved a Stipulation submitted May 1, 2001, in Docket Nos. 00-057-08 and 00-057-10 proposing price stabilization measures be used in conjunction with natural gas purchases during the winter months (October – March). Pursuant to the Stipulation, the Company proceeded to hedge portions of its base-load winter natural gas portfolio.

In Wyoming Docket No. 30010-GP-01-62, the Company requested to include costs to reduce price volatility such as occurred during the winter of 2000-2001. In its October 30, 2001 Order, the Wyoming Commission approved the Company's request to include stabilization costs in the 191 Account. The Company does not engage in any speculative hedging transactions by limiting these price stabilization efforts to contracts or contract amendments that fix or cap prices for gas supplies that are contractually committed to Questar Gas' system for delivery to end-use retail customers.

For the October 2010 – March 2011 time period, the Company hedged 23% of its base load purchased gas supplies. This resulted in 5.6 Bcf being hedged at an average price of \$4.19/MMBtu.

The Company plans to continue a hedging program for the 2011 – 2012 winter heating season.