- BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH –

In the Matter of Questar Gas Company's Integrated Resource Plan (IRP) for Plan Year: June 1, 2016 to May 31, 2017	DOCKET NO. 16-057-08 REPORT AND ORDER

ISSUED: December 1, 2016

On June 14, 2016, Questar Gas Company ("Questar") filed its Integrated Resource Plan ("IRP") for the period of June 1, 2016, through May 31, 2017 ("2016 IRP"). On June 23, 2016, the Public Service Commission ("PSC") issued a Scheduling Order, establishing deadlines for parties to file comments on the 2016 IRP. The PSC also hosted a technical conference on June 23, 2016, during which Questar addressed two primary topics: its study on heat pumps and concerns Questar has raised regarding peak hour demand. The PSC received comments from the Division of Public Utilities ("Division") and the Office of Consumer Services ("Office") on August 15, 2016, and reply comments from Questar on September 30, 2016. For the following reasons, the PSC acknowledges that the 2016 IRP complies with the 2009 IRP Guidelines.[1]

1. Summary of the 2016 IRP

The 2016 IRP presents Questar's plan to supply — and capacity to provide for and manage — Utah's ongoing natural gas demand. In preparing the 2016 IRP, Questar represents it sought to maintain four primary objectives: (1) to project future customer requirements; (2) to analyze alternatives for meeting customer requirements with respect to gas supply, upstream capacity, and distribution system; (3) to develop a plan based on stochastic data and methods and risk mitigation programs to achieve the provision of reliable and safe gas supply services at

[1] In 2009, the PSC established Integrated Resource Planning Standards and Guidelines for Questar, which this Order refers to as the "2009 IRP Guidelines." *See In the Matter of the Revision of Questar Gas Company's Integrated Resource Planning Standards and Guidelines*, Docket No. 08-057-02 (Report and Order dated March 31, 2009).

reasonable long-term costs to all customer classes given system constraints and capacities; and (4) to use IRP-developed guidelines for creating a flexible framework to conduct day-to-day and longer-term gas supply decisions with respect to cost-of-service gas, gas purchases, gathering, processing, upstream transportation, and storage. (2016 IRP at 2-16.)

Questar submits the following findings and forecasts for the 2016-17 IRP year:

(1) Questar forecasts design-day firm sales demand of approximately 1.317 million decatherms ("MMDth") at the city gates for the 2016-17 heating season;

(2) Questar estimates cost-of-service gas production to be 64.0 MMDth for the 2016-17 IRP year;

(3) Questar estimates the balanced portfolio of gas purchases to be approximately 53.6 MMDth;

(4) Questar maintains no current need exists for any additional price stabilization but represents it will continue to monitor the potential for this need on an annual basis;

(5) Questar represents it should maintain flexibility in purchase decisions because actual weather and load conditions may vary from those assumed in the IRP modeling; and

(6) Questar affirms it should continue to monitor and manage producer imbalances and that it should continue to promote cost-effective energy-efficiency measures.

(2016 IRP at 1-1, 1-2.)

The 2016 IRP presents Questar's annual forecasts, summaries of system and gas modeling activities, and resource selection results. It also includes a discussion of regulatory, resource, and operational challenges that Questar faced during the previous year or could face in the future. Forecasts include annual temperature-adjusted system sales and throughput, system

firm peak design-day gas demand, residential usage per customer, and the number of newly acquired customers. Questar uses the forecast information, along with other operational data, to evaluate current and projected gas supply needs and system infrastructure requirements. Questar also uses these forecasts to inform the development of its annual natural gas request for proposals for base load and peaking gas supplies.

The following tables summarize prices in dollars per decatherm ("Dth"), sales, peak demand, throughput, and usage per customer information provided in the 2016 IRP. For comparison, historic information is provided where available.

Table 1. Price[2] ($/Dth) (2016 IRP, Page 5-1)

Historic First of Month Index Price for Natural Gas on Questar Pipeline	2016 IRP	2015 IRP	2014 IRP
Annual average price	2015: $2.49	2014: $4.25	2013: $3.47
Heating season average price	2015-2016: $2.01	2014-2015: $3.21	2013-2014: $4.31

Table 2. Sales (million Dth)

Annual System Sales	2016 IRP Forecast 2016/17-2025/26	2015 IRP Forecast 2015-2025	2015 Actual
Temperature-adjusted sales	111.6 – 122.7[3]	113.1 – 125.2	111.3
Actual sales			95

[2] In the 2015 IRP Questar changed its First-of-Month ("FOM") index price reference from Questar Pipeline to Northwest Pipeline. Questar stated the Northwest Pipeline index is now a better indication of price.

[3] The projections contained in the IRP reflect the temperature and elevation compensation the PSC approved in Docket No. 09-057-16, *In the Matter of the Application of Questar Gas Company to Increase Distribution Non-Gas Rate and Charges and Make Tariff Modifications* (Report and Order, June 3, 2010).

Table 3. Peak Demand (million Dth/day)

Peak Demand at the City Gate	2016 IRP Forecast Heating Season 2016-2017	2015 IRP Forecast Heating Season 2015-2016	Actual Heating Season 2015-2016
Total	1.739	1.694	1.150
Firm Sales	1.317	1.306	0.884
Transportation	0.423	0.388	0.266

Table 4. System Throughput (million Dth)

System Throughput	2016 IRP Forecast 2015/16-2025/26	2015 IRP Forecast 2015-2025	2015 Actual
Temperature-adjusted system throughput	191.0 – 204.0[4]	188.0 – 203.0	188.0
Actual system throughput			172.0

Table 5. Usage per Customer (Dth)

Temperature Adjusted Average Usage per Customer	2016 IRP Forecast 2016/17-2025/26	2015 IRP Forecast 2015-2025	2016 Actual
System-wide General Service ("GS")	191.6 – 204.0		106.2
Utah GS	103.4 – 93.0	106.9 – 97.6	
Utah Residential GS	78.6 – 69.4	80.6 – 72.4	79.95
Utah Commercial GS	442.0 – 424.2	458.4 – 437.9	448.91

Table 6. Natural Gas Supply Requirements (million Dth)

Natural Gas Requirement	2016 IRP Forecast June 2016 – May 2017	2015 IRP Forecast June 2015 – May 2016
Total	133.0	138.7
Cost-of-Service Gas	64.0	66.2
Purchased Gas	15.4	57.6
Other (off system and storage)	143.753.2	14.9

Questar also identifies several reinforcement and replacement projects that are currently in the planning, design or construction phase. These projects include seven high pressure station

[4] Questar's current forecast includes anticipated throughput for electricity generation plants fueled by natural gas.

projects, six feeder line projects, and three intermediate high pressure projects located throughout its system. As the PSC directed in its order addressing Questar's 2015 IRP ("2015 IRP Order"),[5] the 2016 IRP also presents information on heat pumps and peak hour demand.

2. Parties' Comments

The Division's analysis of the 2016 IRP addresses procedural, reporting, and informational requirements. The Division concludes the 2016 IRP substantially complies with the 2009 IRP Guidelines and improves on some aspects of previous IRPs. The Division notes that Questar "has also committed, through continuing discussions with parties, to continue to improve on details of some aspects presented in this IRP." (Division Comments at 22.) Accordingly, the Division recommends the PSC acknowledge Questar's 2016 IRP.

The Office's comments centered on two issues: (1) the heat pump study Questar performed as the PSC directed in its 2015 IRP Order; and (2) Questar's concerns regarding its ability to meet peak hour demand on a high load day and the possibility of using DSM strategies to mitigate those concerns.

a. Heat Pumps

The Office summarizes Questar's report on heat pumps and recommends that Questar continue monitoring heat pump growth and its impact on peak demand. The Office does not believe proliferation of current heat pump technology is likely because the regional climate renders these systems relatively cost ineffective. However, the Office agrees with Questar that "it seems to be a reasonable assumption that all air source heat pumps will be using back-up [natural

[5] *See* "*In the Matter of: Questar Gas Company's Integrated Resource Plan (IRP) for Plan Year: June 1, 2015 to May 31, 2016*," Docket No. 15-057-07, Report and Order dated October 22, 2015 at 11.

gas or electricity] during the time of peak demand." (Office's Comments at 6-7.) While the Office acknowledges the possible risk of inadequate cost recovery from customers utilizing heat pumps, the Office represents Questar "has provided no evidence that current rate design would not be adequate for managing heat pump customers at this time." (Office's Comments at 7.) The Office recommends that Questar continue monitoring heat pump growth and its impact on peak demand and cost recovery.

Questar generally agrees with the Office's conclusion regarding the recommendation to continue to monitor heat pumps but disagrees with some of the Office's underlying assertions. Questar agrees *current* heat pump technology coupled with Utah's climate render near-term proliferation of heat pumps unlikely. Questar maintains, however, that the natural gas backup furnaces of heat pump customers "have the *potential* to create problems in forecasting future system requirements." (Questar Reply Comments at 4.) Regardless, Questar agrees it should continue to monitor the effect of heat pumps on its system and that existing rate design is adequate for the current mix of furnace and heat pump customers. (*Id.* at 4.)

b. DSM Impact on Peak Demand

The Office notes Questar's stated concern that its system may not be able to meet peak hour demand on a high-load day. (Office's Comments at 7 (citing 2016 IRP at 7-6).) The Office asserts it is "very possible" that opportunities exist to implement DSM programs to reduce peak day or peak hour demand in order to avoid purchasing new services or building new infrastructure to meet peak hour demand. (Office's Comments at 8.) In making this assertion, the Office highlights that Questar "spends very large sums of money on DSM every year" and notes that its energy efficiency program only reduces overall consumption and does not provide system

benefits. (*Id.* at 8-9.) In addition, the Office proposes that, if Questar's energy efficiency measures actually increase peak day/hour demand, that it include the costs of mitigating these problems in the cost portion of the cost-benefit analysis for DSM programs. (*Id.* at 9.)

The Office recommends two measures Questar should take to assess and address the peak hour issue: (1) implement new cost-effective DSM programs that help to alleviate peak day and peak hour system constraints, and (2) assuming energy efficiency increases peak day and peak hour demand, include the costs of mitigating these problems in the costs portion of the cost-benefit analysis for the type of DSM program. (Office Comments at 9-10.)

Questar maintains it has long made clear that its DSM goals are centered on reducing natural gas usage. Further, Questar generally supports the "Office's efforts to find ways to reduce peak hour usage and would support implementation of a program that would achieve such reduction." (Questar Reply Comments at 5.) However, Questar is more uncertain about the availability of such programs and their potential efficacy. (*Id.*) Questar also believes that even if such programs were available, customers would be reluctant to participate if doing so meant lower gas usage during peak periods. (*Id.* at 6.) Questar asserts, as well, that such a program would take years to develop and implement and would not address the near-term peak hour concerns. (*Id.*) Questar notes that research into a similar program among Questar's Transportation System customers revealed that voluntary participation would be too low to render such a program effective. (*Id.*) For these reasons Questar believes programs designed to reduce residential and commercial gas usage on short notice during peak hours are unlikely to be effective. (*Id.* at 7.)

3. Discussion

The IRP process is an open, public process through which all relevant supply-side and demand-side resources are investigated in the search for the optimal set of resources to meet current and future natural gas service needs at the lowest total cost to the utility and its customers, in a manner consistent with the long-run public interest, and public safety, given the expected combination of costs, risks, and uncertainty. Under the 2009 IRP Guidelines, we consider comments on the adequacy of the Planning Process and the IRP. The PSC may provide guidance to Questar or request corrections or updates regarding the current or future Planning Process or IRP.

We continue to recognize Questar's efforts in preparing its annual IRP, managing the IRP process, and addressing PSC guidance from previous IRP orders. These efforts, as reflected in the comments the Division and the Office provided, ensure Questar's annual IRP provides timely, valuable information on its plans for meeting its present and future responsibilities. We also recognize integrated resource planning is an ongoing process and should reflect changing circumstances.

The PSC appreciates the coordination and execution of Questar's heat pump study, as well as input from the Division and the Office regarding the study. We find that Questar has substantially addressed the Office's four main concerns identified in our 2015 IRP Order. We encourage Questar to continue to monitor and report on the heat pump trends in its jurisdiction and their impacts on peak demand and cost recovery.

With respect to the potential DSM impact on peak demand, we direct the Natural Gas DSM Advisory Group ("DSM Advisory Group") to collaborate with Questar to explore whether

opportunities exist for one or more DSM pilot programs that might alleviate peak demand. The PSC appreciates the Office's concerns regarding peak hour demand and the suggestion that Questar consider additional or alternative DSM methods for addressing the peak hour demand issue. The PSC finds, however, that the proper approach is for the DSM Advisory Group to collaborate with Questar regarding any DSM-related proposals. The PSC, therefore, encourages Questar, the Office, the Division, and other members of the DSM Advisory Group to explore potential DSM initiatives with the hope of reducing peak demand.

On the whole, based upon our review of the 2016 IRP and the comments from the Division and the Office, we agree with the Division's assessment that Questar's 2016 IRP complies with the requirements of the 2009 IRP Guidelines**.**

4. Order

We find that the 2016 IRP as filed complies with the requirements of the 2009 IRP Guidelines.

DATED at Salt Lake City, Utah, December 1, 2016.

/s/ Thad LeVar, Chair

/s/ David R. Clark, Commissioner

/s/ Jordan A. White, Commissioner

Attest:

/s/ Gary L. Widerburg
Commission Secretary
DW#290593

CERTIFICATE OF SERVICE

I CERTIFY that on December 1, 2016, a true and correct copy of the foregoing was served upon the following as indicated below:

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