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Division of Public Utilities

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## ACTION REQUEST RESPONSE

To: Public Service Commission

From: Division of Public Utilities
Chris Parker, Director
Artie Powell, Manager, Energy Section
Doug Wheelwright, Technical Consultant
Carolyn Roll, Technical Consultant

Date: August 15, 2016

Subject: Action Request Docket No. 16-057-08, Questar Gas Company 2016-17 Integrated Resource Plan (IRP) Report, Division's Recommendation - Acknowledgement.

**RECOMMENDATION (Acknowledgement)**

The Division of Public Utilities (DPU or Division) recommends to the Public Service Commission of Utah (PSC or Commission) that the Integrated Resource Plan (IRP) plan filed by Questar Gas Company (QGC or Company) be 'acknowledged' for reasons discussed in the IRP Process Comments section. 'Acknowledgement' of the Plan means the PSC 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."[1]

On June 14, 2016, the Company filed its IRP for the plan year June 1, 2016 to May 31, 2017. On June 15, 2016 the Commission issued a notice of scheduling conference to be held on June 23, 2016. The scheduling order was issued on June 23, 2016, which called for all parties to submit

[1] Final Standards and Guidelines for Integrated Resource Planning for Mountain Fuel Supply Docket No. 91-057-09.

their comments to the Commission by August 15, 2016. This memorandum is in response to the Commission's Scheduling Order.

**HISTORY**

Since the early 1990s, QGC, formerly known as Mountain Fuel Supply Company, has been filing Integrated Resource Plans 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."[2] For planning purposes, the time period of this process had been from May of the current year through April of the following year. QGC recommended that integrated resource planning activities reflect a planning year June 1st through May 31st, which the PSC accepted in its order issued March 31, 2009.[3] 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.

In order to make these projections, which require a multitude of interrelated variables and processes, QGC utilizes a computer model called SENDOUT, which has been designed specifically for local natural gas distribution systems. This computer model is marketed and maintained by Ventyx which is headquartered in Zurich, Switzerland. QGC used version 14.3 in the preparation of the IRP for the 2016-2017 year.[4]

Originally, QGC's IRP filing was on a biennial schedule with an annual update in the intervening years.[5] 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.

[2] Proposed IRP Guidelines for Questar Gas Company, Docket No. 97-057-06, p. 1.
[3] In the Matter of Revision of Questar Gas Company's Integrated Resource Planning Standards and Guidelines, Report and Order, Public Service Commission of Utah , Docket No. 08-057-02, Issued March 31, 2009, pp.4-6.
[4] Questar Gas Company Integrated Resource Plan (For Plan Year: June 1, 2016 to May 31, 2017) p. 9-1.
[5] Docket 95-057-04, p. 1.

Subsequent to that filing, QGC met with the staffs of the Office of Consumer Services (OCS) and the 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 OCS 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.

The PSC has been considering new IRP guidelines and the provisions of the Energy Independence and Security Act of 2007 (EISA) as they apply to utilities. On December 14, 2007, the PSC issued its Report and Order on Questar Gas Company's integrated resource plan for the plan year extending from May 1, 2007 to April 30, 2008.[6] The PSC required QGC to "continue with its current IRP approach and time lines," requested the inclusion of some additional information, and also requested that specific issues be addressed in the 2008 IRP. On April 3, 2008, the PSC issued draft standards and guidelines governing IRPs for QGC with comments by interested parties due by May 30, 2008.[7] Comments were submitted by interested parties including the DPU and discussion meetings were held. On March 31, 2009, the PSC issued its Report and Order on Standards and Guidelines for Questar Gas Company requiring QGC to file its 2009 IRP in accordance with the December 14, 2007, Report and Order.[8] QGC was ordered to prepare and file future IRPs effective June 1, 2009, in compliance with new IRP standards and guidelines attached to the Order. Consequently, QGC filed its 2009-2010 IRP during May of 2009 in conformity with the December 14, 2007 Order.

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[6] In the Matter of the Filing of Questar Gas Company's Integrated Resource Plan for Plan Year: May 1, 2007 to April 30, 2008, Report and Order, Public Service Commission of Utah, Docket No. 07-057-01, Issued: December 14, 2007.

[7] In the Matter of the Revision of Questar Gas Company's Integrated Resource Planning Standards and Guidelines, Request for Comments on Draft Standards and Guidelines, Docket No. 08-057-02, Issued: April 3, 2008.

[8] In the Matter of the Revision of Questar Gas Company's Integrated Resource Planning Standards and Guidelines, Report and Order on Standards and Guidelines for Questar Gas Company, Docket No. 08-057-02, March 31, 2009. It is assumed that the order referenced on page 20 as the "December 17, 2007, Report and Order" is in fact the "December 14, 2007, Report and Order."

On May 6, 2009 the PSC issued an action request to the DPU requesting comments on the adequacy of the 2009 IRP, since the PSC acknowledged that there were "many changes and enhancements to the information provided" by Questar Gas in the 2009 IRP. The PSC also asked for comments on changes, if any that would be necessary for the 2009 IRP to meet the requirements of the 2009 IRP Standards as if they had been in effect.[9] Subsequently, the PSC issued an order broadening the action request by inviting all interested parties to comment on the same matters.[10]

In a Clarification Order[11] QGC was commended for its commitment to the IRP process and timely IRP filings. The PSC recognized that QGC's 2008 and 2009 IRP filings contents were improved as required by the PSC in its December 14, 2007 order.[12] The PSC also made a number of findings clarifying the 2009 IRP Standards. For some issues, the comments from parties were so dissimilar that the PSC directed QGC to meet with interested parties in attempt to reach consensus on outstanding issues. Details of these meetings held prior to the filing of the 2010-2011 IRP were included in Section 2 of that filing. Included in the 2010-11 IRP are descriptions of the clarification meetings that were held on June 2 and July 1, 2010.[13]

The Commission required in the Clarification Order that the Company: 1) include in future IRPs a more detailed description of the models used to derive long-term forecasts of residential usage per customer and number of customers; 2) discuss the relationship between avoided gas costs and IRP modeling in a future IRP meeting; 3) include five years of historical information in the peak demand forecast graph; 4) engage in formal and informal training on stochastic modeling; 5) address in a public meeting, the planned increase in Company-owned gas volumes given the costs of Company-owned gas relative to purchased gas; and 6) provide all relevant data to the

[9] Action Request – Revised, From: Public Service Commission, Subject: Questar IRP; 09-057-07, May 6, 2009.
[10] In the Matter of Questar Gas Company's Integrated Resource Plan for Plan Year: May 1, 2009 to April 30, 2010, Request For Comments, Docket No. 09-057-07, Issued: May 11, 2009.
[11] In the Matter of Questar Gas Company's Integrated Resource Plan for Plan Year: May 1, 2009 to April 30, 2010, Report and Order, Docket No. 09-057-07, Issued: March 22, 2010.
[12] Docket No. 07-057-01, pp.17-22.
[13] Docket No. 11-057-06, pp.2-11 to 2-12.

Utah Commission given the change in the quarterly reporting schedule.[14] Guidance and suggestions were discussed with QGC so that future IRPs could be improved and to be in compliance with the IRP guidelines. All Parties recognize that integrated resource planning is a continually evolving process.

The following is a brief discussion of the major components found in the current IRP for the plan year June 1, 2016 through May 31, 2017.

**CUSTOMER & GAS DEMAND FORECASTS**

The 2015-2016 IRP year is projected to finish at 112.3 MMDth of temperature-adjusted system sales demand. The sales demand for the 2016-2017 IRP year is forecasted to be 111.6 MMDth. The reduction in total sales demand from the prior 2015-2016 IRP year is the result of approximately 2 MMDth in annual demand shifting from sales to transportation; nearly 140 GS, FS and IS customers moved to transportation service in July of 2016. The rate of customer growth is expected to continue its upward momentum as a healthy economy and in-migration lead to increased housing demand. Average GS usage per customer, however, is expected to continue the long-term decline. Residential usage averaged 79.95 Dth for the twelve months ending December, 2015. The Company projects an average of 78.55 for the 2016-2017 IRP year. The Company expects Non-GS commercial and industrial consumption will continue to grow modestly. Annual demand among electric generation customers decreased over the prior year by about 5 MMDth in 2015. Much of the total demand is used for peaking load generation and can vary considerably over time making accurate forecasting difficult. The forecast projects a leveling off of electric generation demand at the current level of about 36 MMDth per year.

In the 2015-2016 IRP, the Utah Commission ordered the Company to provide information and perform a study on potential regulatory issues related to heat pumps. With regard to the heat pump study, the Office specifically requested; 1) an overview of how air and ground source heat pumps are used in space and water heating applications, both residential and commercial, 2) a

[14] In the Matter of Questar Gas Company's Integrated Resource Plan for Plan Year: June 1, 2010 to May 31, 2011, Report and Order, Docket No. 10-057-06, Issued: October 27, 2010.

description of the ambient temperatures that result in the efficient use of heat pumps along with the temperatures requiring a switch back to natural gas appliances, 3) a specific explanation of how the operations of heat pumps have the potential to impact peak demand and associated infrastructure along with gas management challenges, and 4) analysis demonstrating potential cost recovery and cross subsidies associated with heat pump customers. The Company's study is included in Section 3 of the IRP filing.

**SYSTEM CONSTRAINTS AND CAPABILITIES**

For planning and meeting supply requirements, QGC separates its distribution system into five distinctive areas. Those areas or systems are the Northern Region, the Eastern (North) Region, the Eastern (Northwest Pipeline) Region, the Southern (Main System) Region, and the Southern (Kern River Taps) Region.

The Northern System, which serves the Wasatch Front, receives gas from Questar Pipeline Company (QPC) and Kern River Transmission Company (KR) at six major city gates. The Northern System currently has enough capacity to meet peak day requirements of 1,317,000 Dths for the projected 2016-2017 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. The following system expansion and replacement projects are scheduled for 2016-2017: Heber City Reinforcement, this project was discussed in the 2011-2012 IRP with updated costs in the 2015-2016 IRP of $2,800,000. Construction began in May 2016 and will be completed in September of 2016; Belt Line Replacement Project will continue in Salt Lake County, in 2016 there is no Belt Line work scheduled for Weber and Utah Counties; and Questar Gas is continuing its Feeder Line replacement program in 2016 with replacements planned on FL 6, FL 24, FL 21, and the crossover where FL 11 and FL13 meet. Pursuant to the Commission's bench order approving the Settlement Stipulation in Docket No. 13-057-05, the Company will file an infrastructure replacement plan each fall detailing the planned projects, the anticipated costs and other relevant information.

The Eastern (North and Northwest Pipeline) Region includes distribution systems that Questar Gas acquired from Utah Gas in 2001. After several years of operation, the Company determined that the systems in Monticello, Moab and Vernal were in need of replacement. In 2009, Questar Gas began a replacement program. The Company has completed replacements in Monticello and Moab and work is underway in Vernal. The Company will replace approximately 120,000 lf of main and 675 services in Vernal during 2016. The total estimated project cost for 2016 is $5,500,000 with a first-year revenue requirement of about $765,000. The Company plans to complete this project in 2017. There are no other viable alternatives for replacement.

The Southern (Main System and Kern River Taps) Region receives its gas supply from QPC at Indianola and from KR at the WECCO and Central taps. All segments in this area have adequate pressures and do not require any improvement to meet the existing demand. The WG0003 Regulator Station project is intended to improve IHP system pressures in St. George, Utah. This station will be approximately three miles southeast of downtown St. George and will tap into FL 71. The Company's growth projections indicate that this project will be required prior to the 2017 heating season, construction is scheduled to be completed in August, 2016.

Questar Gas continues to implement integrity activities for transmission lines as originally mandated by the "Pipeline Safety Improvement Act of 2002" and later codified in the Federal Regulations (49 CFR Part 192 Subpart O). 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. On December 4, 2009, the Pipeline and Hazardous Materials Safety Administration (PHMSA) issued the final rule titled: "Integrity Management Program for Gas Distribution Pipelines." This final rule became effective on February 12, 2010, with implementation required by August 2, 2011. The distribution integrity management rule requires operators to develop, write, and implement a distribution integrity management program. PHMSA initially published an advanced notice of proposed rulemaking (ANPRM) for the Safety of Gas Transmission and Gathering Lines (Mega Rule) on August 25, 2011. On April 8, 2016, PHMSA published a notice of proposed rulemaking (NPRM) in the Federal Register. The Mega Rule is intended to increase the level of safety

associated with the transportation of gas by imposing regulations to prevent failures like those involved in recent incidents. The Mega Rule also seeks to clarify and enhance some existing requirements and address certain statutory mandates and National Transportation Safety Board (NTSB) recommendations. If adopted, the proposed rule would require additional pipeline integrity management measures for pipelines that are not in high consequence areas (HCAs), as well as clarifications and selected enhancements to integrity management activities related to pipelines within HCAs. QGC is forecasting costs for transmission and distribution integrity management will be approximately $6.8 million for 2016; $7.1 million for 2017; and $6.6 million for 2018. Details of the anticipated costs associated with transmission and distribution integrity management are found on pages 4-27 through 4-32. The DPU will monitor these initiatives as required.

**PURCHASED GAS AND COMPANY PRODUCTION**

Monthly index prices for natural gas delivered into Questar Pipeline's system during the 2015 calendar year averaged $2.49 per Dth. This was much lower than the 2014 average price of $4.25 per Dth, a decrease of $1.76 per Dth or 59%. The price for natural gas on Questar Pipeline during the 2015-2016 heating season (November-March) averaged $2.01 per Dth compared to an average price of $2.94 per Dth during the 2014-2015 heating season, a decrease of $0.93 or 32%. The current forecast shows prices increasing to an average of $2.86/Dth for the coming heating season.

QGC implements 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 where input has been sought by QGC on the strategies being employed. Given the forecast for Company-owned production of approximately 57% of the gas requirements, the Company does not plan to enter into any fixed-price agreements during the IRP year, but it may do so in the future.

The IRP gas purchase plan is based on a set of assumptions derived from the best available data at the time the IRP was 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 2015-2016 IRP, three of the quarterly reports have been filed with the Commission.

For the first quarter of the 2015-16 plan-year (June-Aug, 2015) Clay Basin injection was 2.3 million Dth ahead of estimates due to lower than expected usage and higher than forecasted cost-of-service production. June and July cost-of-service production exceeded IRP projections due to new wells in Pinedale that came on earlier than anticipated and in each month legacy wells exceeded estimates. Gas purchases were slightly above IRP projections due to maintenance work on Questar's Southern System that required purchases from Kern River to serve Cedar City and St. George. The cost for purchased gas during the quarter was $283,000, the forecast was $156,000.

During the second quarter of the 2015-16 plan-year (Sep-Nov, 2015), firm sales were 13% below the forecast for the quarter, actual of 19.2 million decatherms versus projection of 21.7 million decatherms. This resulted from actual temperatures for the quarter being warmer than anticipated and heating degree days being 27% below the 30-year normal. Clay Basin inventory is below the IRP estimates, withdrawals increased in November due to cold weather and concerns that the warm weather experienced in 2015 would continue through the heating season and not allow Clay Basin to receive injections in the spring of 2016. The Clay Basin inventory at November 2015 was 8,367 MDth, which is below the projected level of 13,419 MDth.

December 2015 through February 2016 was slightly warmer than normal resulting in sales that were 1.7 million Dth below forecast, for the IRP year sales are 2.5 million below forecast. Clay

Basin inventory ended the quarter at 3,055 MDth, above the forecast of 1,438 MDth. Continued warmer than normal weather and low prices for purchased gas resulted in the higher than forecasted inventory levels by the end of February. Firm sales for the year total 82.3 million decatherms, just 3% below the forecasted sales for 84.9 million decatherms.

At the May 18, 2015 Pass-Through Technical Conference, it was requested that the Company update the purchased gas and cost-of-service price comparison using an estimated 3.8% adjustment to the wellhead volume to more accurately compare the cost-of-service price to the purchase gas price. The Company now includes this comparison in the quarterly IRP Variance Report.

The 2016-2017 IRP reflects Company-owned production of 64.0 million Dth and gas purchase volumes of 53.6 million Dth. For the current plan, the price of natural gas for 2016-2017 heating season is forecasted to be $2.86/Dth. At the present time there is no need for any additional price stabilization, but the Company will review this issue on an annual basis to determine whether such measures may be appropriate in the future.

The DPU recognizes that variances will exist between the forecasted and actual natural gas prices 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 2016-17 IRP.

**GATHERING, TRANSPORTATION & STORAGE**

Most of the Company-owned gas produced by WEXPRO is gathered under the System Wide Gathering agreement (SWGA) between QGC and QEP Field Services (QEPFS). QEPFS was formerly Questar Gas Management Company, an affiliate of Questar Gas. Effective June 30, 2010, Questar Corporation spun off QEP Resources. On December 2, 2013, QEP Resources announced its decision to pursue a separation of its midstream (gathering and processing)

business including QEPFS.[15] On October 19, 2014, QEP Resources announced that it had entered into an agreement to sell its midstream business to Tesoro Logistics LP (Tesoro)[16] and closed the transaction on December 2, 2014.

The gathering agreement is based on cost-of-service and 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 1st. The table below summarizes the history of the one-part cost-of-service rate broken out between the monthly reservation charge and the commodity charge, as billed by QEPFS. The billing determinant for the commodity rate is based on the previous calendar-year gathering-system throughput.

**System Wide Gathering Agreement Rates**

**1993 - 2015**

| 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 |
| 9/1/2008 | 0.46694 | 852,099 | 0.22616 |
| 9/1/2009 | 0.45127 | 955,513 | 0.18160 |
| 9/1/2010 | 0.50090 | 1,060,315 | 0.20764 |
| 9/1/2011 | 0.41750 | 1,008,209 | 0.19530 |
| 9/1/2012 | 0.42693 | 988,803 | 0.17077 |
| 9/1/2013 | 0.42226 | 1,000,624 | 0.16890 |

[15] "QEP Resources Announces Decision to Pursue a Separation of its Midstream Business," QEP Resources News Release, Denver, Colorado, Business Wire, December 2, 2013.
[16] "QEP Resources Announces Sale of its Midstream Business to Tesoro Logistics LP for $2.5 Billion," QEP Resources News Release, QEP Resources Investor Relations, October, 19, 2014.

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|---|---|---|---|
| 9/1/2014 | 0.47912 | 1,144,282 | 0.19165 |
| 9/1/2015 | 0.54291 | 1,351,595 | 0.21717 |

During the fall of 2010, Questar Gas requested an audit of the calculation of the gathering rates and charges. Based on the information provided by QEPFS, Questar Gas disputed the rates and charges. Disagreements over the interpretation of the contract were not able to be resolved over the ensuing months. On May 1, 2012, Questar Gas filed a lawsuit against QEPFS. During this time Questar Gas continued to dispute the monthly invoices, but made payments based upon its own calculation of gathering costs under the SWGA. These payments were subject to adjustment pending the outcome of the litigation. In conformity with the Utah Commission's IRP Order dated December 16, 2011, Questar Gas has been engaged in an analysis of the SWGA.[17] An update of that analysis was provided in a Utah IRP technical conference on April 18, 2012. The Commission ordered the Company to provide a quarterly update of the proceedings associated with the SWGA.[18] The Company has done so in its quarterly variance reports. In the IRP variance report dated May 29, 2015 the Company reported that the parties (with QEP now being owned by Tesoro Logistics LLP) entered into a standstill agreement under which they agreed to hold the proceedings in the lawsuit in abeyance until September 1, 2015 while they attempt to settle their disputes. On December 2, 2014, Tesoro Logistics LP (Tesoro) purchased the midstream (gathering and processing) business of QEP Resources including QEPFS and QEPM[19]. On March 22, 2016, the parties entered into a confidential settlement agreement which resolved all claims in the lawsuit. As part of the confidential settlement, certain gathering agreements were amended, effective January 1, 2016, to clarify the determination by Tesoro of the cost-of-service gathering rates charged under the agreement.

Questar Gas holds firm transportation contracts on Questar Pipeline, KRGT, CIG and Northwest Pipeline. The Company also has storage contracts with Questar Pipeline. Questar Gas continues

[17] In the Matter of Questar Gas Company's Integrated Resource Plan for Plan Year: June 1, 2011 to May 31, 2012, Report and Order, Docket No. 11-057-06, Issued: December 16, 2011, Page 12.
[18] In the Matter of Questar Gas Company's Integrated Resource Plan (IRP) for Plan Year: June 1, 2012 to May 31, 2013, Report and Order, Docket No. 12-057-07, Issued: August 6, 2012, Page 8.
[19] "Tesoro Logistics LP Completes the Acquisition of QEP Field Services, Creating Full-Service Logistics Business," Tesoro Logistics News Release, Tesoro Logistics Investor Relations, December 2, 2014.

to review capacity requirements to determine the amount of transportation and storage required. As part of this planning process, Questar Gas is currently evaluating its existing contracts with Questar Pipeline, Kern River, and Northwest Pipeline that have term expirations within the next five years. Questar Gas will continue to look for ways to optimize its use of these contracts. Questar Gas entered into two new transportation contracts in 2015; one with CIG and one with Kern River. Questar Gas has served the town of Wamsutter, WY with interruptible capacity from CIG. On September 24, 2015 Questar Gas entered into a firm transportation service agreement (Contract #211257) with CIG. The new agreement allows Questar Gas to transport up to 400 Dth/D to serve Wamsutter. The contract runs from November 1, 2015 through October 31, 2025. On February 19, 2016 Questar Gas entered into a firm transportation service agreement (Contract #1534) with Kern River for the transportation of 27,625 Dth/D under Kern River's KRF-1 rate schedule. This contract is not segmentable. Questar Gas plans to utilize the transportation under this contract to provide additional firm capacity to serve the Wasatch Front during the coming heating season

As a result of a large scale electric power outage in the southwestern United States in February 2011, the FERC and industry groups began closely looking at ways to better coordinate the resources of natural gas power generation facilities and the interstate FERC-regulated pipelines that deliver gas to those power plants.[20] The FERC issued an order on March 20, 2014 to commence a rulemaking on the Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities (NOPR). FERC proposed changes to: (1) the natural gas operating day (Gas Day); and (2) the natural gas intra-day scheduling practices. On April 16, 2015 FERC issued Order No. 809, which changed the nationwide Timely Nomination Cycle deadline for scheduling natural gas transportation from 11:30 a.m. Central Clock Time (CCT) to 1:00 p.m. CCT, revised the intraday-nomination timeline to include an additional intraday scheduling opportunity during the Gas Day, adopted revisions to provide contracting flexibility to firm natural gas transportation customers through the use of multi-party transportation contracts but did not change the start time of the Gas Day. The North American Energy Standards Board (NAESB) continues to review issues regarding gas electric harmonization and plans to file a report with

[20] See http://www.ferc.gov/industries/electric/indus-act/electric-coord.asp

FERC by October 17, 2016. To further reliability in the industry, FERC has approved rate schedules that allow interstate natural gas pipeline companies the ability to offer enhanced services, such as peaking services or hourly firm transportation, to provide shippers the ability to contract for services over an hourly or peak period during the day as opposed to standard firm services which contract per day and not per hour. On December 17, 2015 Questar Gas provided an update to the Commission on the impact of hourly demand on its system. As gas-electric harmonization develops and enhanced services become more widely available, Questar Gas will continue to closely follow industry developments and analyze whether its reliability would be improved through an enhanced hourly or peaking service.

With increasing sales customer base and the associated demand growth, Questar Gas has begun to see actual hourly demand on high-load days that exceed the physical limits to the hourly deliveries Questar Pipeline can make to the City Gates. As part of no notice transportation (NNT) service, Questar Pipeline's tariff allows delivery of volumes that exceed Questar Gas' RDC for short periods of time as long as those deliveries do not impair Questar Pipeline's ability to provide service under any other rate schedule. In addition to the services currently available to Questar Gas, such as intra-day nomination changes and storage services, the Company is considering the following solutions (separately or in combination): 1) upstream hourly services that can be offered to provide supply to match the demand swings; 2) demand response programs; 3) contracting for additional firm upstream transportation capacity; 4) purchasing excess supply to meet peak demand; 5) facility improvements; and 6) the building of a liquefied natural gas (LNG) facility to use for hourly peaking supply. Questar Gas has determined that additional services will be required for the 2016-2017 heating season in order to meet peak-hour demand. Questar Gas sent out requests for proposals (RFP) for engineering services to begin the design analysis work for an on-system LNG facility. The Company has received a number of proposals that are being evaluated and the Company plans to proceed with initial engineering work during the 2016-2017 IRP year.

**ENERGY-EFFICIENCY PROGRAMS**

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."[21] 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."[22]

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 DSM implementation. The report specifically identified as an example QGC's "economic sensitivity to the loss of gas load that increased DSM would foster."[23]

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 effect the Conservation Enabling Tariff Adjustment Option (CET).[24] On January 16, 2007, the PSC issued an order approving a three year pilot program of DSM initiatives undertaken by QGC. As part of that order, the DPU

[21] 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.
[22] "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.
[23] Ibid
[24] "Joint Application of Questar Gas Company, the Division of Public Utilities, and Utah Clean Energy", Docket No. 05-057-T01, December 16, 2005.

was to prepare a first year evaluation report and file it with the PSC. This report was filed with the PSC on July 25, 2007 in Docket No. 05-057-T01.

Based on work with the DSM Advisory Group, Utah-based trade allies, program administrators and other energy-efficiency stakeholders, QGC proposed and the PSC approved the continuation of the energy-efficiency programs and the ThermWise® Market Transformation initiative. This program is ongoing and is reviewed and approved each year. During 2015, QGC reported a deemed savings of 761,848 Dth from DSM programs and a total net benefit cost ratio for all programs of 0.9. Results of 2015 DSM programs were filed with the Commission in Docket No. 16-057-04. These programs are reviewed quarterly by the DPU and reported to the PSC on an annual basis.

In Docket No. 14-057-15 the Commission ordered the Company to "…continue its discussion on peak day issues in the DSM Advisory Group and in a public input meeting associated with the 2015 IRP." (Report and Order dated October 8, 2014, Docket No. 14-057-15.) The Company continued the discussion of the effects of energy-efficiency on peak day at the Advisory Group meeting held March 24, 2015 and again at the IRP meeting held on March 25, 2015. The Company has continued to study this topic since the last public discussions, and data supports, that rebate-eligible equipment has little or no impact on peak-hour usage (either by reducing or increasing). However, installing energy-efficient equipment reduces usage over the entire peak-day.

**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 would 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 were 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 DPU submitted comments to the PSC on May 30, 2008.

In its Report and Order in Docket 07-057-01, the PSC required that, in the interim, QGC continue with its current IRP approach and time lines, but outlined eleven items that were to be included in the 2008 and future IRPs.[25] The table below itemizes the IRP issues the PSC directed QGC to include in future IRPs.

[25] 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.

**Questar Gas Company**
**IRP Issues**

| Issue No. | Specific Topic |
|---|---|
| | |
| 1 | Documentation of Long-Term Sales Forecast Drivers |
| | Explanation of Throughput Forecast |
| | Economic and Demographic Information Reference |
| | Reliability of Economic and Demographic Information |
| | Use of Information in Forecasting |
| | |
| 2 | Need for No-Notice Transportation |
| 2 | Management of Kern-Only Systems |
| | |
| 3 | SENDOUT Model Configuration |
| | |
| 4 | Project-Specific Cost Estimates |
| | Revenue-Requirement Impacts of Expansion Projects |
| | Long-Term Gas Quality Issues |
| | Storage Management |
| | Modeling of Clay Basin Contract |
| | Other Long-Term Contracts Under Consideration |
| | |
| 5 | Producer Imbalance Recoupment |
| | |
| 6 | Wexpro Production Levels |
| | Gas Hedging and Gas Price Risk |
| | |
| 7 | Identification and Discussion of Regulatory Drivers |
| | |
| 8 | DSM Modeling in SENDOUT Base Case |
| | |
| 9 | Contingency Plans for an Uncertain Future |
| | |
| 10 | Utah Gas Assets |
| | |
| 11 | Rationale for Modeling Constraints |
| | Constraint Removal |

QGC submitted this planning document, for the operating year extending from June 1, 2010 to May 31, 2011, to the Utah Commission on May 20, 2010 in accordance with the following: 1) the Report and Order issued March 31, 2009 in Docket No. 08-057-02; and 2) the Report and Order issued March 22, 2010 in Docket No. 09-057-07. The first Utah order established new integrated resource planning guidelines and the second Utah order clarified certain planning requirements. QGC agrees with the PSC that this IRP process is "ongoing" and "is expected to evolve over time." Interested parties continue to meet, as directed in the March 22, 2010 Order, to "discuss their positions with the goal of reaching a consensus to the extent possible."

Meetings were held with interested parties and PSC staff on June 17, 2010 and July 1, 2010 to discuss areas of the IRP that needed additional information in subsequent years. The discussion items are outlined in Section IX Specific IRP Components (pp. 29-33) of Docket No. 08-057-02. The DPU acknowledged that the QGC's 2010-2011 IRP contained expanded in-depth narrative of the areas listed in the order.

On October 22, 2015, the Commission issued its Report and Order on the 2015 IRP.[26] The Commission recognized the Company's efforts in preparing the 2015 IRP, managing the IRP process, and addressing Commission guidance from previous orders. The Commission also acknowledged that integrated resource planning is an ongoing process and should be adjusted to reflect changing circumstances. The Commission agreed with the Division's assessment that the 2015 IRP substantially complied with the 2009 IRP Standards. Finally, the Commission directed that Company provide additional information pertaining to Heat Pumps and the impact of energy efficiency (EE) programs on peak demand in its 2016 IRP.

Over the past year, Questar Gas has scheduled technical conferences and meetings to respond to specific issues as ordered by the Commission, to receive input for the IRP process, and to report on the progress of the Company's planning effort. The details of the 2016 IRP meetings are included on pages 2-15 and 2-16 of the IRP.

## SUMMARY AND CONCLUSIONS

In summary the Division recommends the PSC acknowledge the QGC 2016-17 IRP Report due to the following 2009 IRP guidelines having been met in this filing as outlined below:

### General Information Requirements:

1. The Company provides a description of IRP objectives and goals for both gas supply and DNG functions as shown on page 2-14 and 2-15 of the IRP.

[26] In the Matter of Questar Gas Company's Integrated Resource Plan for Plan Year: June 1, 2015 to May 31, 2016, The Public Service Commission of Utah, Report and Order, Docket No. 15-057-07, Issued: October 22, 2015.

2. In the Filing, the Company provides a range of load growth forecasts broken out by GS residential in Exhibit 3.3 and small commercial in Exhibit 3.4. The non-GS category is broken out by commercial, industrial, and electric generation in Exhibit 3.8. The load growth forecasts for firm customer peak-day requirements are shown in Exhibit 3.9 with winter-season requirements and annual requirements shown in Exhibit 9.90. The average usage per customer is shown in Exhibit 3.2.

3. How a range of weather conditions is utilized in the SENDOUT model is discussed on page 9-4 and shown in Exhibits 9.37 through 9.49.

4. An analysis of how various economic and demographic factors, including the prices of natural gas and alternative energy sources, will affect natural gas consumption, and how changes in the number, type and efficiency of end-uses will affect future loads is discussed to some extent in pages 3-1 through 3-19 of the filing.

**191 Account Issues:**

1. The Company discusses an economic assessment of all viable delivery, gas supply, load management and demand-side resource options consisting of:

   a. Company production (Wexpro) on pages 6-1 through 6-7, annual market gas contracts, seasonal market gas contracts, spot market purchases on pages 5-1 through 5-4, the utilization of and modeling of demand-side management resources on pages 8-1 through 8-11 and Exhibit 8.1 of the filing.

   b. Transportation and storage service options are discussed on pages 7-1 through 7-15 as required.

   c. For demand-side resources, the Company provides the total resource cost test, the ratepayer impact test, the utility cost test and the participant cost test as approved by the Commission on page 8-9.

2. The Results section of the IRP depicts the Company's proposed gas supply portfolio and operational strategy and demonstrates in numerous graphs, the impact of changes in demand and gas prices in the modeling simulation. In Exhibits 9.89 and 9.90 of the IRP, a summary of the IRP for the gas supply/demand is broken out by residential, commercial and non-General Service ("GS") categories. Company use, and lost and unaccounted for gas; and gas supply is broken out by purchased gas, cost-of-service gas, and storage (both injection and withdrawals).

   A discussion and analysis of the availability and use of storage reservoirs by the Company and an explanation of storage reservoir management practices is also provided on pages 7-9 through 7-14.

3. A discussion and analysis of gathering and transportation-related issues, including pertinent

recently negotiated contracts and other relevant contracts is presented in pages 7-1 through 7-8.

4. A discussion of producer imbalances including terms, time-periods, volumes, and fields where recoupment nominations have occurred and/or may occur is found on pages 6-4 through 6-5.

5. Pages 7-8 through 7-9 has a discussion and evaluation of reasonably predicted, anticipated, or known gas quality issues during the planning horizon.

6. The current level of expected lost and unaccounted for gas is discussed on pages 3-16 through 3-17.

7. A planning horizon of 21 years is utilized, which is of sufficient length to effectively model Company production as well as economically viable energy efficiency measures.

8. Pages 3-7 through 3-16 and 4-18 through 4-36 discuss how changes or risks in the natural gas industry, the regulatory environment, and/or industry standards may affect resource options available to the Company and potential impacts on resource options and attendant costs.

9. A set of general guidelines is found on page 10-1, which identifies the specific resource decisions necessary to implement the results of the Planning Process and associated IRP in a manner consistent with the strategic business plan.

**DNG Issues**

1. An overview of the distribution system and an identification of system capabilities and constraints, which includes:

    a. Identification of substantial projects including feeder line, large diameter main, small diameter main, and measurement and regulation station equipment projects, their associated capital budgets and long-range plan estimates, and a forecast of the revenue requirement impacts for those projects over the three-year time-frame addressed in the IRP is presented in Section 4 of the IRP.

2. A detailed explanation of, and underlying basis for, the Company's integrity management plan activities and associated costs for the three-year time frame are discussed on pages 4-19 through 4-30.

3. A DNG Action Plan is presented on pages 4-12 through 4-18 which outlines specific resource decisions and steps necessary to implement the IRP consistent with the Company's budget and/or business plan.

The DPU agrees that the General Information Requirements have been met. IRP objectives are found on pages 2-16 and 2-17, for load growth forecasts refer exhibits 3.3, 3.4, and 3.8., weather conditions are discussed on page 9-3 and economic and demographic factors are discussed in Section 3. In general the requirements for the 191 Account were met. Gas supply was discussed in Sections 5 and 6 and transportation options and storage were discussed in Section 7.

The Division believes the Company has made reasonable attempts to satisfy the 2009 IRP guidelines and has also committed, through continuing discussions with parties, to continue to improve on details of some aspects presented in this IRP. Therefore the DPU recommends the PSC acknowledge the 2016-2017 IRP as filed in Docket No. 16-057-08.

CC: Michele Beck, OCS
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IRP Service List