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Division of Public Utilities

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ACTION REQUEST RESPONSE

To: Public Service Commission of Utah

From: Division of Public Utilities
Chris Parker, Director
Artie Powell, Manager, Energy Section
Doug Wheelwright, Technical Consultant
Eric Orton, Technical Consultant
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Date: September 14, 2018

Subject: Action Request Docket No. 18-057-01, Dominion Energy Utah 2018-19 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 or Plan) plan filed by Dominion Energy Utah (DEU, Company or QGC)[1] 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."[2]

On June 14, 2018, the Company filed its IRP for the plan year June 1, 2018 to May 31, 2019. On June 15, 2018 the Commission issued a notice of scheduling conference to be held on June 26,

[1] Throughout this memo when referring to an historical docket of event Dominion Energy Utah will be referred to as QGC.
[2] Final Standards and Guidelines for Integrated Resource Planning for Mountain Fuel Supply Docket No. 91-057-09.

2018. The scheduling order was issued on June 27, 2018, which called for all parties to submit their comments to the Commission by September 14, 2018. This memorandum is in response to the Commission's Scheduling Order.

HISTORY

Since the early 1990s, Dominion Energy Utah, formerly known as Questar Gas Company (QGC) and 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."[3] 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.[4] 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, DEU 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 owned by ABB, headquartered in Zurich, Switzerland. DEU used version 14.3 in the preparation of the IRP for the 2018-2019 year.[5]

[3] Proposed IRP Guidelines for Questar Gas Company, Docket No. 97-057-06, p. 1.
[4] 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.
[5] Dominion Energy Utah Integrated Resource Plan (For Plan Year: June 1, 2018 to May 31, 2019) p. 13-1.

Originally, QGC's IRP filing was on a biennial schedule with an annual update in the intervening years.[6] 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 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. Dominion Energy'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 considered 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.[7] 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. Those issues were addressed in QGC's 2008 IRP.[8] 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.[9] Parties submitted comments and held discussion meetings. 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.[10] QGC was ordered

[6] Docket 95-057-04, p. 1.
[7] 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.
[8] Questar Gas Company Integrated Resource Plan (For Plan Year: May 1, 2008 to April 30, 2009), Submitted: May 1, 2008.
[9] 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.
[10] 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.

to prepare and file future IRPs, in compliance with new IRP standards and guidelines attached to the March 31, 2009 Order. Consequently, QGC filed its 2009-2010 IRP during May of 2009 in conformity with the December 14, 2007 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 QGC 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.[11] Subsequently, the PSC issued an order broadening the action request by inviting all interested parties to comment on the same matters.[12]

In a Clarification Order[13] 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.[14] 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 2010-2011 IRP are descriptions of the clarification meetings that were held on June 2 and July 1, 2010.[15]

The Commission required in the Clarification Order that QGC: 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)

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."

[11] Action Request – Revised, From: Public Service Commission, Subject: Questar IRP; 09-057-07, May 6, 2009.

[12] 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.

[13] 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.

[14] Docket No. 07-057-01, pp.17-22.

[15] Docket No. 11-057-06, pp.2-11 to 2-12.

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 Utah Commission given the change in the quarterly reporting schedule.[16] 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, 2018 through May 31, 2019.

CUSTOMER & GAS DEMAND FORECASTS

The 2017-2018 IRP finished the year at 103.0 MMDth of temperature-adjusted system sales demand, the IRP forecast was 115.0 MMDth. The sales demand for the 2018-2019 IRP year is forecasted to be 115.2 MMDth. The Company forecast a steady growth rate in the GS class but forecasts only a small growth rate of 0.02% above last year's forecast for the 2018-2019 IRP year. This is because approximately 2.2 MMDth of annual sales demand shifting to the TS rate schedule in July of this year. The rate of customer growth is expected to continue its upward momentum as a thriving economy, in-migration, and a household formation rate that is exceeding the supply of homes. Average GS usage is expected to continue the long-term decline; the Company projects an average of 80.6 Dth for the 2018-2019 IRP year. Non-GS commercial and industrial consumption will continue to grow modestly with the continued shifting of some commercial GS customers to transportation service. Annual demand among electric generation customers decreased over the prior year by about 38% in 2017. Much of the total demand is used for peaking load generation and can vary considerably over time, making accurate forecasting difficult. The forecast assumes a steady electric generation demand at the current level of about 36 MMDth per year.

[16] 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.

On January 6, 2017, the Company issued an interruption and curtailment notice to its interruptible sales and transportation customers in Utah and Wyoming. The interruption and curtailment was necessary because multiple freeze-offs at processing plants and upstream pipelines resulted in supply uncertainty. About 50% of the customers receiving notification were either unable or unwilling to curtail to the lower of their firm demand or delivered quantities. The Company imposed penalties on those customers who failed to curtail pursuant to the Tariff. The results of the interruption attempt highlight the Company's concern that it may not be able to depend upon its interruptible customers to reduce their demand during a peak event. This could suggest further changes to interruptible tariffs are warranted.

SYSTEM CONSTRAINTS AND CAPABILITIES

For planning and meeting supply requirements, DEU 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 Company creates gas network analysis (GNA) master planning models to more accurately predict impacts of system growth. The Company utilizes steady-state Intermediate High Pressure (IHP) gas network computer models to determine the required system improvements needed to maintain required operational pressures throughout the distribution system. The Company uses these models to identify the required locations and sizing of new mains and/or regulator stations. The HP system models have more variables than the IHP system models and are also used to design for customer demand and growth.

The Northern System, which serves the Wasatch Front, receives gas from Dominion Energy Questar Pipeline (DEQP) and Kern River Gas Transmission Company (KRGT) at six major city gates. The Northern System currently has enough capacity to meet peak day requirements of 1,330,000 Dths for the projected 2018-2019 IRP year. In order to ensure that peak day capacity requirements can be met, DEU will require additional gate station capacity and pressure support by 2020. The following system expansion and replacement projects are scheduled for 2018-2019: District Regulator Stations in Lehi and Westport Gate Station in Salt Lake City: Belt Line Replacement Project will continue in Salt Lake County, and Utah Counties; and Dominion

Energy is continuing its Feeder Line replacement program in 2018 with replacements planned on FL 35, FL 21-50, FL 21, and possibly FL 47. Pursuant to the Settlement Stipulation and the Utah 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 QGC 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, QGC began a replacement program. The Company has completed replacements in Monticello, Moab and Vernal. During 2018, Feeder Line 111 extension is required to reinforce the HP service into Reliance, Wyoming. The current 4-inch diameter HP feed into the area has reached its capacity. The Company determined an HP reinforcement was necessary rather than IHP reinforcements in order to maintain pressures in the area for the short term and meet future growth.

The Southern (Main System and Kern River Taps) Region receives its gas supply from DEQP at Indianola and from KRGT 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 Southern System will require substantial upgrades within the next ten years. The Company has monitored the Southern System growth since the Central Compressor station was installed. Based on the current projections, it is estimated that a new feeder line will need to be installed from the Bluff St station east to the Washington 2 tap line prior to heating season 2020-2021 in order to maintain system pressures.

Dominion Energy Utah 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 (HCA), as well as clarifications and selected enhancements to integrity management activities related to pipelines within HCAs. The new administration has delayed the publication of the Mega Rule regulation. In March 2018 PHMSA's Gas Pipeline Advisory Committee (GPAC) gathered to continue its work on developing the proposed rule for Transmission and Gathering Pipelines. The industry anticipates the first rule making will be published in 2019. DEU is forecasting costs for transmission and distribution integrity management will be approximately $10.7 million for 2018; $12.8 million for 2019; and $14.7 million for 2020. Details of the anticipated costs associated with transmission and distribution integrity management are found on pages 6-10 through 6-13. 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 2017 calendar year averaged $2.74 per Dth. This was higher than the 2016 average price of $2.24 per Dth, an increase of $0.50 per Dth or 22%. The price for natural gas on Questar Pipeline during the 2017-2018 heating season (November-March) averaged $2.57 per Dth compared to an average price of $2.95 per Dth during the 2016-2017 heating season, a decrease of $0.38 or 13%.

The current forecast shows prices decreasing 6% to an average of $2.41/Dth for the coming heating season.

DEU 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 2000-2001 through consultation with regulatory officials. Update meetings are held as needed with regulatory authorities and DEU on the strategies being employed. Given the forecast for Company-owned production of approximately 61% of the gas requirements, the Company does not plan to enter into any such 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 2017-2018 IRP, all quarterly reports have been filed with the Commission.

For the first quarter of the 2017-2018 plan-year (June-Aug, 2017) Clay Basin and the Aquifer inventory levels were slightly above target for the quarter. Cost-of-service production exceeded IRP projections for the quarter and injections into Clay Basin exceeded estimates and helped avoid shut-in of cost-of-service gas that was above IRP estimates. There were no gas purchases during the quarter due to elevated cost-of-service production and warmer temperatures, which resulted in only 4 heating degree days. Firm sales for the quarter totaled 7,667 MDth versus a forecast of 8,317 MDth.

During the second quarter of the 2017-2018 plan-year (Sep-Nov, 2017), firm sales were 7% below the forecast for the quarter, actual of 20.9 million decatherms versus projection of 22.7 million decatherms. This resulted from actual temperatures for the quarter being warmer than anticipated and heating degree days being 15% below the 30-year normal. Clay Basin and Aquifer inventory levels closely matched the IRP estimates. Ryckman storage was not used during this IRP quarter due to bankruptcy and operational concerns. Wexpro new drill volumes for the second IRP quarter were very close to the production forecasts, 2,735 MDth actual versus 2,751 MDth forecast.

During the third quarter (Dec 2017 – Feb 2018) the actual weather was warmer than the forecasted temperature estimates for each of the three months. This resulted in sales that were 5.1 million Dth below forecast for the quarter. Firm sales for the year total 79.6 million decatherms, 9% below the forecasted sales for 87.5 million decatherms. Cost-of-service gas for the year totaled 55.3 million decatherms, 6% above the forecasted production of 52.4 million decatherms. Clay Basin inventory ended the quarter at 3,714 MDth, above the forecast of 2,066 MDth. With Ryckman bankruptcy concerns relieved, a small amount of gas was injected in December for operational use.

For the last quarter of the 2017-2018 plan-year (Mar-May, 2018) Clay Basin and the Aquifer inventory levels were above target for the quarter. Cost-of-service production exceeded IRP projections for the quarter, newly drilled Pinedale wells along with tubing repairs by Pinedale Energy Partners out performed expectations for the quarter. Firm sales for the quarter totaled 23,348 MDth versus a forecast of 27,253 MDth. Firm sales for the year total 103.0 million decatherms, 11% below the forecasted sales for 114.7 million decatherms. Cost-of-service gas for the year total 74.3 million decatherms, 6% above the forecasted production of 69.9 million decatherms.

The 2018-2019 IRP reflects Company-owned production of 70.6 million Dth and gas purchase volumes of 49.7 million Dth. For the current plan, the price of natural gas for 2018-2019 heating season is forecasted to be $2.41/Dth. There is not a need for any additional price stabilization,

but the Company will review this issue on an annual basis to determine whether such measures are 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. DEU 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 2018-2019 IRP.

GATHERING, TRANSPORTATION & STORAGE

The majority of the Company-owned gas produced by WEXPRO is gathered under the System-Wide Gathering Agreement (SWGA), between the Company and QEPM Gathering I, LLC (QEPM). Andeavor Logistics LP (formerly Tesoro Logistics LP) acquired these midstream assets from QEP Resources Inc. in December of 2014. On April 30, 2018, Marathon Petroleum Corp (Marathon) and Andeavor Logistics LP announced a merger agreement. This agreement is based on cost-of-service and was approved by the Commission in Docket Nos. 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 QEPM. The billing determinant for the commodity rate is based on the previous calendar-year gathering-system throughput.

System Wide Gathering Agreement Rates

1993 - 2017

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
9/1/2014	0.47912	1,144,282	0.19165
9/1/2015	0.54291	1,351,595	0.21717
9/1/2016	0.40991	1,020,487	0.16397
9/1/2017	0.45392	1,023,151	0.18476

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. Questar Gas continued to dispute the monthly invoices, but made payment based upon its own calculation of gathering costs under the SWGA. These payments would be 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 at this time being owned by Tesoro Logistics LLP) entered into a standstill agreement under which they agreed to hold the proceedings

[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.

in the lawsuit in abeyance until September 1, 2015, while they attempt to settle their disputes. On December 2, 2014, Tesoro Logistics LP (Tesoro, now Andeavor Logistics LP) 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 resolving 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 Dominion Energy Questar Pipeline, Kern River Pipeline, Colorado Interstate Gas (CIG), and Northwest Pipeline. The Company also has storage contracts with DEQP. Dominion Energy Utah continues to review capacity requirements to determine the amount of transportation and storage required. The Company evaluates all transportation options using assumptions that ensure the Company provides safe, reliable, diverse and cost-effective service to its customers. In March, 2017, the Company extended Dominion Energy Questar Pipeline Contract #241 for 798,902 Dth/D until June 30, 2027. This contract provides capacity from multiple receipt points and interconnects with Northwest Pipeline, Overthrust Pipeline, and White River Hub. With this extension, the Company also signed a Precedent Agreement to upgrade the Hyrum Gate station and expand the total capacity by 100,000 Dth/D. Simultaneously, the Company and Dominion Energy Questar Pipeline entered into a Facilities Agreement that obligates Dominion Energy Questar Pipeline to construct at least $5,000,000 of delivery point upgrades. The expansion of the Hyrum gate station and associated capacity will provide necessary increased supplies to the northern area of the Company's distribution system. DEQP will complete the upgrades in 2019 and the capacity will be available for the 2019-2020 heating season

To meet growing customer demand and ensure access to reliable supply sources, the Company also contracted for released capacity on Kern River. One contract was for a permanent release and the other is a seasonal release. These contracts provide firm transportation capacity that will allow

[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.

the Company to purchase gas at locations with available supply and transport the gas to the Company's city gate stations. The contract for seasonal release of capacity on Kern River consists of a release of 27,000 Dth/D for the months of November through the succeeding March with a term of November 1, 2017 through March 31, 2032. It also includes a release of 56,925 Dth/D for the months of December through the succeeding February, and 6,000 Dth/D for November and March with a term of November 1, 2017 through March 31, 2031. This capacity will have a path from Opal/Muddy Creek to Goshen with full segmentation rights.

The Ryckman Creek storage project involves the utilization of a partially depleted oil and gas field located approximately 25 miles southwest of the Opal Hub in southwestern Wyoming. The facility interconnects with KRGT, DEQP, Northwest Pipeline, Overthrust Pipeline, and the Ruby Pipeline. Effective April 18, 2011, the Company entered into a Firm Gas Storage Service Precedent Agreement with Ryckman for 2.5 MMDth of storage capacity. Beginning in 2013, Ryckman Creek began to experience a series of operational problems and force majeure events affecting its operations. In 2016, the Company notified Ryckman Creek that it intended to terminate its storage contract and Ryckman Creek filed for bankruptcy. During the bankruptcy proceedings, Ryckman Creek and the Company renegotiated the storage services agreement with new and additional terms favorable to the Company. In December, 2017, Ryckman Creek Resources successfully emerged from bankruptcy. The company plans to fully utilize the Ryckman storage facility going forward.

PEAK-HOUR DEMAND AND RELIABILITY

The Company forecasts that projected peak-hour demand across the system will materially exceed the Company's total firm capacity on a Design- Peak Day for each of the next ten heating seasons. Beginning at a technical conference on December 17, 2015, and again in the 2016-2017 IRP, the 2017-2018 IRP and the 2018-2019 IRP and associated workshops the Company discussed the need for a solution to the peak hour demand concerns. The Company then provided updates to the Commission on the impact of peak-hourly demand on its system and the resources available to meet this demand in Docket No. 17-057-09 and 17- 057-20. The prudency of these services was

under review in Docket 17-057-20, with the Commission issuing its order on July 13, 2018.[20] The Division will re-evaluate the peak day design based on the Commission's order.

The Company discussed the possibility of constructing an LNG facility to meet the peak-hour demand needs in the 2017-2018 IRP. At that time, the DEQP firm peaking service had not yet been approved by the FERC. Since that time, the FERC has approved the DEQP service, the Company has had the opportunity to utilize and evaluate the DEQP service, and the Company has determined that the Firm Peaking Services offered by both KRGT and DEQP are the most cost-effective and reliable solution. The Company is seeking approval for a voluntary resource decision to construct an LNG plant for other reasons. The Company originally planned to build a much larger facility than what is currently being proposed, however the Firm Peaking Services are claimed to be a more cost effective solution

The Company states that in order to meet its commitment and statutory obligation to provide safe and reliable service to customers, the Company's gas supply plan should include sufficient resources to prudently operate and provide uninterrupted service to firm industrial, commercial and residential sales customers in the event of supply shortfalls during a cold weather event. The Company completed an assessment to determine the optimum approach to ensure safe, reliable and cost-effective system supply during periods of supply shortfalls. Based on historical supply shortfalls experienced by the Company, the Company determined that it needed to plan to replace approximately 150,000 Dth/day of gas supply. The Company has considered and evaluated options to meet the Company's commitment and statutory obligation to provide safe and reliable service to customers. The Company's recommended approach is to construct, own, and operate an on-system LNG storage facility with liquefaction and vaporization capabilities. The Company has filed with the Commission, Docket No. 18-057-03, an application for approval to construct an

[20] In the Matter of the Pass-Through Application of Dominion Energy Utah for an Adjustment in Rates and Charges for Natural Gas Service in, Report and Order, Public Service Commission of Utah, Docket No. 17-057-20, July 13, 2018.

LNG facility.[21] This application is an open docket before the Commission, the Division has made its comments with regard to construction of an LNG facility in Docket No. 18-057-03.

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."[22] 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."[23] 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."[24]

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).[25] On January 16, 2007, the PSC issued an order approving a

[21] In the Matter of the Request of Dominion Energy Utah for Approval of a Voluntary Resource Decision to Construct an LNG Facility, Docket No. 18-057-03, April 30, 2018.
[22] In the Matter of the Application of Questar Gas Company for a General Increase in Rates and Charges, Report and Order, Public Service Commission of Utah, Docket No. 02-057-02, December 30, 2002.
[23] "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.
[24] Ibid
[25] "Joint Application of Questar Gas Company, the Division of Public Utilities, and Utah Clean Energy", Docket No. 05-057-T01, December 16, 2005.

three year pilot program of DSM initiatives undertaken by QGC. As part of that order, the DPU 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 for 2008 in Docket No. 07-057-05, in Docket No. 08-057-22 for 2009, in Docket No. 09-057-15 for 2010, in Docket No. 10-057-15 for 2011, in Docket No. 11-057-12 for 2012, in Docket No. 12-057-14 for 2013, Docket No. 13-057-14 for 2014, Docket No. 14-057-25 for 2015, Docket No. 15-057-16 for 2016, Docket No. 16-057-16 for 2017, and in Docket No. 17-057-22 for 2018. During 2017, QGC reported a deemed savings of 892,241 Dth from DSM programs and a total net benefit cost ratio for all programs of 1.02. Results of 2017 DSM programs were filed with the Commission in Docket No. 18-057-02. These programs are reviewed quarterly by the DPU and reported to the PSC on an annual basis.

In January 2017, the Company introduced the ThermWise Direct-Install Weatherization Pilot Program. This program was designed to reach communities and customers with historically low participation in weatherization measures. Direct-install work commenced in July, 2017. The Company is pleased with the results of this new initiative to date and has kept the Advisory Group informed as to the early results. The Company added a pipe insulation rebate at $0.50 per linear foot in the 2018 budget. The Company additionally recommended that participation in this measure be limited to the Direct-Install pilot, where quality installation can be ensured through the Company's already established quality assurance/quality control process.

The Company will also launch a three year pilot initiative, through the 2018 Weatherization Program, designed to achieve natural gas savings in both low-income and market rate multifamily properties. This initiative, called the Pilot Multifamily Program, aims to entice multifamily property owners to implement comprehensive energy efficiency retrofits and replace

energy systems across the entire property instead of waiting to replace equipment at the point of failure.

IRP PROCESS COMMENTS

The table below itemizes the IRP issues the PSC directed QGC to include in IRPs in a 2009 order in Docket No 07-057-01.

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

On January 5, 2018, the Commission issued its Report and Order on the 2017 IRP.[26] The Commission found, with the exception of Chapter 8 Peak-Hour Demand and Reliability, that the 2017 IRP as filed generally complied with the requirements of the 2009 IRP Guidelines. The Commission directed Dominion to monitor and report on demand-response issues, initiate an IRP docket early each year, modify the IRP so the action plan is readily accessible, and include a discussion of its interruptible customer rate structures and tariff provisions in a 2018 pre-IRP filing public meeting. The Company was also directed to provide modeling sensitivity analyses and other information identified in Section 3, of the order,[27] in future IRPs pertaining to all evaluated solutions for addressing perceived peak hour deficiencies and in all flings related to approval of an LNG facility.

Over the past year, Dominion Energy 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 2018 IRP meetings are included on pages 2-12 and 2-13 of the IRP.

SUMMARY AND CONCLUSIONS

In summary the Division recommends the PSC acknowledge the DEU 2018-19 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 2-11 and 2-12 of the IRP.

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

[26] In the Matter of Questar Gas Company's Integrated Resource Plan for Plan Year: June 1, 2017 to May 31, 2018, The Public Service Commission of Utah, Report and Order, Docket No. 17-057-12, Issued: January 5, 2018.
[27] In the Matter of Questar Gas Company's Integrated Resource Plan for Plan Year: June 1, 2017 to May 31, 2018, The Public Service Commission of Utah, Report and Order, Docket No. 17-057-12, Issued: January 5, 2018. Page 11-14.

winter-season requirements and annual requirements shown in Exhibit 13.90. 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 13-3 and shown in Exhibits 13.38 through 13.49.

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 3-11 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 9-1 through 9-7, annual market gas contracts, seasonal market gas contracts, spot market purchases on pages 8-1 through 8-4, the utilization of and modeling of demand-side management resources on pages 12-1 through 12-13 and Exhibit 12.1 of the filing.

   b. Transportation and storage service options are discussed on pages 10-1 through 10-12 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 12-11.

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 13.89 and 13.90 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 10-7 through 10-11.

3. A discussion and analysis of gathering and transportation-related issues, including pertinent recently negotiated contracts and other relevant contracts is presented in pages 10-1 through 10-7.

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 6-5 through 6-6.

5. Page 10-12 has a discussion and evaluation of reasonably predicted, anticipated, or known gas quality issues during the planning horizon.

6. A discussion of peak hour demand and system reliability, including a description of potential remedies being considered by the Company are found on pages 10-5 through 10-7 and pages 11-1 through 11-6.

7. The current level of expected lost and unaccounted for gas is discussed on pages 3-9 through 3-10.

8. Two modifications were made to the SENDOUT model, the discount rate used in the model was adjusted to 4.09% to reflect the Carrying Charge stated in the Tariff and due to SENDOUT software limitations, the runtime for the RFP analysis was limited to 15 years as opposed to 31 years in the past. The primary Monte Carlo analysis for the IRP was still run with a 31 year time frame.

9. Pages 3-7 through 3-9, 6-1 through 6-14, and 7-1 through 7-3 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.

10. A set of general guidelines is found on page 14-1, 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 6-1 through 6-14.

3. A DNG Action Plan is presented on pages 5-1 through 5-8 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 2-12 and 2-13, for load growth forecasts refer exhibits 3.3, 3.4, and 3.8., weather conditions are discussed on page 13-3 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 8 and 9 and transportation options and storage were discussed in Section 10.

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 2018-2019 IRP as filed in Docket No. 18-057-01.

CC: Michele Beck, OCS
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IRP Service List