### GATHERING, TRANSPORTATION AND STORAGE

#### **Gathering and Processing Issues**

A substantial portion of the supplies utilized by the customers of Questar Gas each year is received pursuant to the Wexpro Agreement, as discussed in the previous section, "Cost-of Service Gas." In many situations, gathering and/or processing services are required for these supplies to enter into the interstate pipeline system where they can be delivered to Questar Gas' city gates. Questar Gas is party to a number of gathering and processing agreements which facilitate these services. None of these agreements were negotiated or amended during the previous year. Many of these agreements have contractual escalation clauses requiring routine annual adjustments to gathering and processing rates which take place periodically throughout the year.

The preponderance of supplies received pursuant to the Wexpro agreement are gathered under the System-Wide Gathering Agreement (SWGA) between Questar Gas 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. QEPFS is currently a subsidiary of QEP Resources and is no longer affiliated with Questar Gas.

The SWGA, effective September 1, 1993, incorporates a cost-of-service methodology to determine the reservation and usage rates for gathering services. Each year, new rates are calculated based on the previous calendar year costs-of-service allocable to Questar Gas and the previous calendar year gas throughput. Costs are allocated based on throughput during the five winter heating season months of November through March. New rates are effective each year from September 1 through August 31. As specified in the agreement, sixty percent of the annual cost of service is allocated to the reservation charge and forty percent is allocated to the usage charge.

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 continues to dispute the monthly invoices and continues to reserve its rights for a refund if the court determines that one is appropriate.

In conformity with the Utah Commission's IRP Order dated December 16, 2011, Questar Gas has been engaged in an analysis of the SWGA.<sup>54</sup> An update of that analysis was provided in a Utah IRP technical conference on April 18, 2012. When final results are available, they will be provided to regulatory agencies as required.

<sup>&</sup>lt;sup>54</sup> 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.

Cost data for the gathering and processing functions is included each year by Questar Gas in the SENDOUT modeling process. The new rates determined by QEPFS for the SWGA this year have been used in the modeling process and may be revised when the SWGA gathering dispute is resolved.

The SENDOUT model uses a logical gas supply network to define the relationships between modeling variables. Those logical relationships for the gathering, processing and transportation functions as utilized by the model this year are illustrated in Exhibit 7.1.

### **Transportation Issues**

### Coordination with Regional Pipelines

In an effort to facilitate long-term capacity planning, meetings were held with gas supply and engineering representatives from Questar Gas and marketing and engineering representatives from pipelines in the region. The primary focus of the meetings was to review existing contracts and to determine future transportation capacity and services available to Questar Gas. The information gathered through these meetings, and through ongoing communications will be used to evaluate options for future transportation capacity.

### Colorado Interstate Gas

CIG serves the towns of Wamsutter and Rock Springs in Wyoming. Discussions with CIG have focused mainly on the availability of transportation service to the new "Foothills" station in Rock Springs. Questar Gas and CIG are discussing options that could provide firm transportation capacity to this station. The CIG pipeline is currently flowing east to west with constraints near Wamsutter. This constraint point is currently limiting the availability of capacity that would allow for the gas from the east, in areas such as Echo Springs, to be transported to the Foothills station, or points at Opal, Wyoming. This situation will continue to be monitored for changes that could create potential opportunities.

## Kern River Gas Transmission

Questar Gas has two long-term firm transportation capacity contracts with KRGT. Questar Gas also purchases gas delivered to MAPs on the KRGT system. The current contracts with KRGT are for 3,000 Dth/Day year round with 50,000 Dth/Day seasonal capacity and 1,885 Dth/Day of year-round capacity. Both of these are contracts are segmentable which in turn allows Questar Gas to use them three ways. This segmentation is done at Goshen where the KRGT pipeline interconnects with Questar Pipeline's ML 104. Assuming Questar Gas has taken the supplies from Opal at either Hunter Park or Riverton stations, additional gas supply can be provided at Goshen. This would allow the KRGT pipeline capacity to be used to backhaul additional gas supply to the north from Goshen and send additional gas supply to the south from Goshen. Discussions with KRGT focused some on stations, such as Central Station, that may need upgrades in the near future. Central Station will be upgraded in 2013 to facilitate the Central Compression Project. Questar Gas also discussed the potential costs of future stations. KRGT indicated that any new stations would be evaluated on a case-by-case basis. Long-term capacity however, was the primary focus of the conversations. KRGT has indicated that up to 140,004 Dth/Day of capacity may be available May 1, 2013. KRGT also indicated that up to 1,600,000 Dth/Day could become available in 2018. This could lead to additional long-term firm or other short-term capacity options being available in the coming years.

### Questar Pipeline

Questar Gas currently has three long-term firm transportation capacity contracts with Questar Pipeline. These contracts provide 30,000 Dth/day, 52,000 Dth/day and 798,902 Dth/day of capacity to Questar Gas systems. These contracts provide access to multiple receipt points throughout Utah, Wyoming, and Colorado and deliveries to multiple points throughout the Questar Gas system.

Discussions with Questar Pipeline have focused on potential receipt point amendments, system pressures and the availability of future transportation capacity. The Questar Pipeline contracts provide access to a wide variety of receipt points, some of which no longer have adequate supply to fully utilize Questar Gas' contract capacity. Questar Gas is working with Questar Pipeline to amend its contracts to better align its capacity with points that have adequate supply.

Questar Pipeline also provides unique benefits to the Questar Gas system by providing pressure controlled stations. This provides variations in supply to meet the changes in demand throughout the day while maintaining adequate system pressures. This ability to meet the demand "swings," makes it possible for the Questar Gas system to maintain adequate pressures during the peak hours of the day. Without this ability, the system would have to be designed with excess line pack or other on-system storage in order to maintain adequate pressures.

As growth continues along the Wasatch Front, higher pressures may be required from some of the stations. Options were discussed for making system changes to allow Questar Pipeline to provide higher pressures to Questar Gas. Questar Gas, Questar Pipeline and PacifiCorp recently negotiated an agreement that, if approved by the Utah Public Service Commission, will provide significantly higher pressures at Payson Station. This will allow Questar Gas to operate FL 26 at a higher pressure and utilize its higher MAOP and corresponding capacity. This increase in pressure requires the addition of two pressure stations and some regulator station upgrades off of FL 26, and will result in higher pressures near the center of the Questar Gas system. This project, if approved, will increase actual pressures throughout much of the Questar Gas system.

### Ruby Pipeline

While there is no current interconnect with Ruby Pipeline, Questar Gas has installed a valve assembly and purchased property in order to facilitate a potential station in the future. Discussions with Ruby Pipeline focused on the availability of capacity to serve that site location. There is currently over 400,000 Dth/Day of capacity available on the Ruby Pipeline. Indicators show that capacity on Ruby Pipeline is likely to remain available for the near future and will continue to be an option for long-term firm capacity to serve Questar Gas systems.

## Northwest Pipeline

Northwest Pipeline serves the towns of Dutch John, Moab and Monticello as well as Arches National Park. The supply for these areas comes from Opal, Wyoming. Discussions with Northwest Pipeline focused on options to serve the current and future demands of these areas.

## Firm Upstream Capacity to Cover Peak-Day Demand

As a result of meetings with all of these pipelines, Questar Gas decided to reevaluate the overall strategy for upstream capacity held to cover peak day firm sales demand. In order to develop a strategy, Questar Gas is currently reviewing existing contracts and reviewing options for ensuring that adequate transportation capacity will be available to ensure the safe and reliable delivery of gas to its customers.

These options include year-round firm transportation capacity, seasonal firm transportation capacity, short-term firm transportation capacity, firm purchases delivered to city gates, and interruptible transportation. In order to determine the most appropriate portfolio of upstream capacity, it is important to evaluate the current and future availability of capacity, availability of transportation services that may be required, the likelihood of interruption, the cost differences between the options and the strategies of similarly situated distribution companies.

Over the past 20 years, the percentage of firm upstream capacity to peak-day demand has fluctuated between 78 percent and 104 percent. The percentage fluctuates due to demand increasing from year to year and contract changes. The average over this period has been 90 percent. The proposed strategy going forward is to contract for firm capacity to maintain at least 80-85 percent coverage of peak-day demand with firm upstream capacity. This is based on the current and projected availability of excess capacity on the pipelines in the area. This strategy will be used to guide contracting decisions in the future.

## Northwest Pipeline Firm Transportation Capacity

Questar Gas has historically used short-term firm contracts to transport gas supply to areas served by Northwest Pipeline. This capacity was contracted at a discounted rate and needed to be "flexed" in order to provide access to the receipt and delivery points necessary to support these areas. There is a risk that if the pipeline becomes constrained, they will not allow the receipt and delivery points to be flexed. This concern is greatest for supply to Monticello, UT because deliveries to this area must go through the Moab compressor station, which could be a constraint point. This issue was addressed in coordination meetings with Northwest Pipeline. The proposed solution was for Questar Gas to purchase long-term capacity of 4,311 Dth/Day from Opal, Wyoming to Blanco, Colorado that became available in April of 2012. This provides capacity from an area of available supply to all of the required delivery points on Northwest Pipeline.

On April 23, 2012, Questar Gas entered into a five-year maximum rate agreement with Northwest Pipeline for capacity from Opal, Wyoming to Blanco, Colorado covering 92 percent of peak-day demand for these areas.

### Firm Transportation Capacity Options to Support the Northern System

Questar Gas currently has a contract (#2945) with Questar Pipeline to provide 52,000 Dth/Day of firm capacity to the Wasatch Front (MAP 164). The term of this contract ends on October 5, 2013. As part of the strategic planning for long-term capacity, Questar Gas is evaluating options for replacing this capacity. In order to meet the target percentage of 80-85 percent of peak-day demand covered by firm upstream capacity, this contract must be renewed or replaced with contracts for capacity ranging from 35,000 – 100,000 Dth per day.

Options for this capacity are being considered from the three major pipeline suppliers in this area: Questar Pipeline, Ruby Pipeline, and KRGT. The options will be compared based on costs, access to preferred receipt points, impact on Questar Gas' system pressures and any other potential benefits.

## Questar Pipeline Gas Quality

On January 4, 2012, Questar Pipeline Company filed an abbreviated application, under Section 7(c) of the Natural Gas Act, with the Federal Energy Regulatory Commission (FERC) seeking authority to modify existing facilities and construct new facilities on its southern transmission system.<sup>55</sup> This proposed project would provide Uinta Basin oil producers transmission access to the Chipeta Plant where associated natural gas, rich in liquids, can be processed. The project would utilize Jurisdictional Lateral (JL) 46, JL 47, and a portion of Main Line (ML) 40. The estimated project cost is under \$6 million and would require no environmental assessment or environmental impact statement. Some environmental work will be required, however, under blanket authorizations.

As part of the project, Questar Pipeline is proposing that its cricondenthermhydrocarbon-dew-point<sup>56</sup> (CHDP) zone map be updated. The update would not modify natural gas quality specifications in Questar Pipeline's Tariff, but would change the CHDP zone map by subdividing the current Zone 8 into two zones. The facilities used to transport liquids-rich natural gas to the Chipeta Plant would be in a new Zone 11

<sup>&</sup>lt;sup>55</sup> Federal Energy Regulatory Commission, "Abbreviated Application of Questar Pipeline Company To Construct and Modify Pipeline Facilities," Docket No. CP12-40-000, January 4, 2012.

<sup>&</sup>lt;sup>56</sup> The cricondentherm hydrocarbon dew point is the maximum temperature at which hydrocarbon components in the gas stream start to condense.

designated as a wet zone (35 degree Fahrenheit CHDP limit) with liquids handling facilities.

Questar Gas does not have any cost-of-service supplies in the new Zone 11, but could benefit from the purchase of processed gas from the Chipeta Plant on ML 104. The proposed CHDP map with the new Zone 11 is shown in Exhibit 7.2.

The implementation by Questar Pipeline of its CHDP provisions has worked well in recent years as no major gas quality problems have occurred.<sup>57</sup> On August 6, 2007, the FERC issued an order accepting tariff sheets proposed by Questar Pipeline to modify its gas quality provisions and establish CHDP zones with limits to be effective January 1, 2008.<sup>58</sup> Utilizing these CHDP provisions, Questar Pipeline has been effective in equitably meeting the delivery needs of its Shippers.

The most prevalent measure of fuel gas interchangeability in the U.S. is the Wobbe Index.<sup>59</sup> Natural gas appliances are rated to operate safely and efficiently within a specific Wobbe Index range. Questar Gas used a consulting firm to establish the Wobbe operating ranges for its service areas. For example, Exhibit 7.3 shows the upper and lower Wobbe operating limits for the Utah Wasatch Front (North) region for various levels of heating value and specific gravity. This exhibit has been updated this year by Questar Pipeline's System Operations Analysis group to show the daily averages for 2011 of various sources of natural gas on Questar Pipeline's system flowing to customers in this region. Likewise, Exhibit 7.4 shows the same information for the Wyoming region. Although the data for 2011 is similar to that for 2010, these Wobbe values have generally been trending downward in recent years. The construction of natural-gasliquids processing plants near natural gas fields flowing supplies into the interstate pipelines within the area has contributed to that decline. Should this become a concern on any of the pipelines delivering gas to Questar Gas, there are a number of tools that can be used to manage gas interchangeability including the injection of inert gases (or air) in the gas stream, injection of propane, and the blending of supplies from various sources. However, although there are limits as to how much blending can take place on Questar Pipeline's system, it is a reticulated system, characterized by a diversity of receipt and delivery points and a number of looped-line segments, which Questar Pipeline is able to utilize to optimize its deliveries for its Shippers.

It is difficult to predict the interchangeability of future gas streams received by Questar Gas. The Company may need to arrange for additional processing or blending in the event it is required to ensure that the gas received from the transmission systems of either Questar Pipeline or KRGT are compatible with the needs of Questar Gas' customers. Questar Gas will evaluate this on an ongoing basis as it bears the burden of processing pipeline-quality gas to meet its specific requirements.

<sup>&</sup>lt;sup>57</sup> Questar Pipeline Company, Docket No. RP07-457-000, FERC Gas Tariff Filing, May 18, 2007.

<sup>&</sup>lt;sup>58</sup> Federal Energy Regulatory Commission, Questar Pipeline Company, Docket No. RP07-457-000, "Order Accepting Tariff Sheets," Issued August 6, 2007.

<sup>&</sup>lt;sup>59</sup> The Wobbe Index number consists of the higher heating value of a fuel gas divided by the square root of the specific gravity (relative to air) of the fuel gas. Fuel gases with the same index number generate the same heat output over time from a burner given constant pressure and orifice size.

#### Questar Pipeline Main Line 104 Extension Project

Since November of 2001, Questar Gas has utilized transmission capacity on ML 104, part of Questar Pipeline's southern system. The original firm transportation service agreement was for 50,000 Dth/day of year-round capacity extending from the outlet of the Price  $CO_2$  plant to the Wasatch Front. This supply of gas has been declining. The primary term of service for this contract was ten years from the in-service date of these facilities.

As the primary term of the original ML 104 contract approached expiration, and, with the announcement of Questar Pipeline's ML 104 Extension Project, Questar Gas entered into discussions with Questar Pipeline concerning its southern system capacity. The ML 104 Extension Project involved an extension of the existing ML 104 eastward by constructing 23.5 miles of 24" diameter pipeline. This line was designed to parallel Questar Pipeline's ML 40 from the Green River block valve to the Fidlar Compressor Station allowing for greater access to natural gas supplies in the Uinta Basin.

On October 27, 2009, Questar Gas amended its ML 104 contract, subject to completion of the ML 104 Extension Project, by extending the primary term of the agreement to November 1, 2021. The amendment also moved the primary receipt point farther east on the Southern System to Clay Basin and reduced the maximum daily quantity to 30,000 Dth per day. The reservation and usage charges for this capacity to Questar Gas' city gates remains the maximum system-wide tariff rates for Questar Pipeline. The current reservation charge is \$5.28804 per Dth per month and the current usage charge is \$0.00447 per Dth (including ACA).<sup>60</sup>

On November 10, 2010, Questar Pipeline filed a FERC application requesting a certificate of public convenience and necessity authorizing the ML 104 Extension. A final order was received on May 2, 2011, facilitating the commencement of construction in June of 2011. On November 11, 2011, ML 104 was placed in service adding approximately 160,000 decatherms per day of transmission capacity to Questar Pipeline's southern system. Five Shippers including Questar Gas hold firm contracts totaling 144,000 decatherms per day on the ML 104 Extension Project.

### Kern River Gas Transmission Rate Case

Over the previous year, multiple issues have been settled in the KRGT rate case. Initially filed on April 30, 2004, these long-lived proceedings are finally coming to a close. Counting settlement discussions prior to the rate case filing, the better part of a decade has elapsed.

Questar Gas is a relatively small Shipper on KRGT's system holding 50,000 Dth per day of seasonal capacity and 3,000 Dth per day of year-round capacity made available from KRGT's 2003 Expansion Project. Questar Gas also holds 1,885 Dth per day of year-round ten-year capacity from KRGT's 2010 Expansion Project. By FERC

<sup>&</sup>lt;sup>60</sup> ACA refers to the Annual Charge Adjustment assessed and collected by the Federal Energy Regulatory Commission.

order, the rates paid for the 2010 Expansion Project are the maximum recourse rates for the 2003 Expansion Project.

KRGT filed its Section 4 rate case with the FERC on April 30, 2004. Settlement discussions prior to the filing proved to be unproductive. Questar Gas intervened in the rate case and filed testimony on two issues that directly affected the Company. As a 15-year, 2003 expansion Shipper, the Company argued that the lower cost debt (5.14 percent) associated with the 2003 Expansion Project should not be blended for rate making purposes with the higher cost debt (6.62 percent) of the rolled-in (vintage) Shippers.

Questar Gas' testimony also provided support for the use of a straight-fixedvariable (SFV) rate design methodology in KRGT's rates rather than the enhanced-fixedvariable (EFV) approach proposed by KRGT. Only one other Shipper (of the more than thirty intervening in this rate case) and the FERC staff joined Questar Gas in support of an SFV rate design methodology. Questar Gas' markets and supply sources are situated such that it can utilize capacity segmentation on KRGT's system. Capacity segmentation allows for higher load factors which under an SFV rate design methodology would significantly lower the costs passed on to Questar Gas' customers.

The Presiding Administrative Law Judge (ALJ) issued an initial decision on March 2, 2006, addressing many cost-of-service and rate-design issues.<sup>61</sup> The ALJ also ruled in favor of an SFV rate design methodology.

On October 19, 2006, the FERC issued Opinion No. 486.<sup>62</sup> The FERC overruled the ALJ on the blended debt issue, but upheld the use of an SFV rate design methodology. Requests for rehearing of Opinion No. 486 were addressed in Opinion No. 486-A, issued on April 18, 2008, resolving most issues, with the notable exception of return on equity (ROE).<sup>63</sup>

On January 15, 2009, the FERC issued Opinion No. 486-B.<sup>64</sup> This Opinion articulated, for the first time, the new FERC policy of including master limited partnerships in the rate-of-return proxy group, making this a landmark opinion. Opinion 486-B also established an ROE of 11.55 percent and ordered KRGT to file a compliance filing incorporating ROE in its rates within 45 days.

On December 17, 2009, the FERC issued Opinion No. 486-C denying requests for rehearing of Opinion No. 486-B and accepting subsequently filed tariff sheets, subject to

<sup>&</sup>lt;sup>61</sup> Federal Energy Regulatory Commission, Kern River Gas Transportation Company, Docket No. RP04-274-000, Initial Decision, March 2, 2006.

<sup>&</sup>lt;sup>62</sup> Federal Energy Regulatory Commission, Kern River Gas Transportation Company, Docket No. RP04-274-000, Opinion No. 486, Opinion and Order on Initial Decision, October 19, 2006.

<sup>&</sup>lt;sup>63</sup> Federal Energy Regulatory Commission, Kern River Gas Transportation Company, Docket No. RP04-274, Opinion No. 486-A, Order on Rehearing Establishing Paper Hearing Procedures, April 18, 2008.

<sup>&</sup>lt;sup>64</sup> Federal Energy Regulatory Commission, Kern River Gas Transportation Company, Docket No. RP04-274-000, Opinion No. 486-B, Order on Rehearing, Proposed Settlement and Paper Hearing, January 15, 2009.

certain conditions, for KRGT's Period One Rates.<sup>65</sup> Period One for each Shipper consists of the term of that Shipper's initial contract (which for Questar Gas is 15 years from May 1, 2003).<sup>66</sup> Tariff sheets for Period Two rates were rejected by the FERC and Opinion No. 486-C directed the appointment of a settlement judge to facilitate a settlement process on certain Period Two issues. Furthermore, it was ordered that in the event settlement could not be achieved, a trial-type evidentiary hearing would be held to resolve the remaining issues.

Questar Gas and a number of other Shippers participated in the settlement process. On April 8, 2010, the Settlement Judge issued a status report to the FERC recommending that settlement proceedings be terminated due to an impasse over a fundamental issue even though the parties had worked diligently to resolve their differences.<sup>67</sup> In the interim, two parties including KRGT filed for rehearing of FERC Opinion No. 486-C.

On November 18, 2010, the FERC issued Opinion No. 486-D.<sup>68</sup> This order denied all requests for rehearing with respect to Opinion No. 486-C's rulings on KRGT's Period One rates. Opinion No. 486-D also clarified that the hearing for Period Two rates was being done under NGA Section 5 and would be conducted well before the end of the earliest expiring Period One rates (which for Original System 10-Year Shippers is September 30, 2011). Remaining Period Two issues to be resolved included: eligibility requirements for obtaining Period Two rates, how the Period Two levelized rates should be calculated, the minimum required length of Period Two contracts, and the length of the Period Two levelization period.

On January 14, 2011, KRGT filed a petition with the United States Court of Appeals for the District of Columbia Circuit to review FERC Opinions Nos. 486, 486-A, 486-C and 486-D. On February 7, 2011, Questar Gas filed a motion in that proceeding for leave to intervene as did a number of other Shippers. On February 24, 2011, the case was dismissed by the Court.<sup>69</sup>

<sup>&</sup>lt;sup>65</sup> Federal Energy Regulatory Commission, Kern River Gas Transportation Company, Docket No. RP04-274-000, Opinion No. 486-C, Order on Rehearing and Compliance and Establishing Settlement Judge Procedures and a Hearing, December 17, 2009.

<sup>&</sup>lt;sup>66</sup> The FERC, in its 1990 order authorizing construction of KGRTs original system, approved initial rates based on a levelized cost of service. The FERC also authorized KGRT to charge separate levelized rates for three different periods. Period One was for the initial term of the firm Shippers' contracts, Period Two extended to the end of the depreciable life of Kern facilities (25 years), and Period Three was for the time thereafter.

<sup>&</sup>lt;sup>67</sup> Federal Energy Regulatory Commission, Status Report to the Commission and the Chief Administrative Law Judge Recommending Termination of Settlement Proceedings, Docket Nos. RP04-274-015, RP04-274-016, RP04-274-017, RP04-274-018, RP04-274-019, RP04-274-008, Issued: April 8, 2010.

 <sup>&</sup>lt;sup>68</sup> Federal Energy Regulatory Commission, Kern River Gas Transportation Company, Docket Nos. RP04-274-020, RP04-274-017, RP04-274-018, RP04-274-019, RP04-274-016, RP04-274-009, RP04-274-021, RP04-274-022, Opinion No. 486-D, Order on Rehearing and Compliance, Issued November 18, 2010.
<sup>69</sup> United States Court of Appeals for the District of Columbia Circuit, Kern River Gas Transmission Company, v. Federal Energy Regulatory Commission, "Order," Case No. 11-1010, Filed On: February 24, 2011.

A FERC Presiding Administrative Law Judge on April 14, 2011, issued an Initial Decision articulating his findings on the remaining Period Two issues including how the Period Two levelized rates should be calculated.<sup>70</sup> The Initial Decision also found that the return on equity for Period Two rates should remain at 11.55 percent.

On July 21, 2011, the FERC issued Order 486-E which affirmed in part the April 14<sup>th</sup> Initial Decision and ordered KRGT to file Period Two rates consistent with the order."<sup>71</sup> KRGT responded by filing, on August 5, 2011, tariff records to comply with Order 486-E. The FERC, on August 29, 2011, issued an order accepting the tariff records subject to certain conditions.

On September 19, 2011, the Company filed "Comments and, Alternatively, Protest of Questar Gas Company" seeking clarification of the conditions of eligibility filed by Kern for Period Two rates. Confusion existed because Questar Gas, under its Contract No. 1715, had both seasonal and year-round service, unlike other Shippers, throwing into question, the eligibility of Questar Gas' contract 1715 for Period Two rates.<sup>72</sup>

On September 26, 2011, KRGT in its "Answer of Kern River Gas Transmission Company to Comments and Protests," concurred with Questar Gas that KRGT's eligibility language did not preclude Questar Gas from Period Two rates with regard to Contract 1715.<sup>73</sup> On September 30, 2011 the FERC issued an order accepting the tariff record filed by KRGT related to Period Two rates to be effective October 1, 2011.

As a result of the FERC 486 series of orders, Questar Gas is currently (during Period One) paying a reservation charge of \$0.4704 per decatherm (leap-year rate) and a commodity charge of \$0.0062 per decatherm (including ACA). Prior to the filing of KRGT's April 2004 rate case, Questar Gas was paying an effective one-part rate that was more than 2.5 cents higher. Not included in this comparison are benefits to customers associated with the segmentation of capacity under an SFV commodity rate. Since Questar Gas has not yet made an election for the length of its Period Two term, it will be eligible, beginning May 1, 2018, for a reservation rate of either \$0.2543 per decatherm for a 10 year term, or \$0.2224 per decatherm for a 15 year term. The Period Two commodity rate will be approximately \$0.0031 before ACA.

Questar Gas has been actively involved in KRGT's rate case proceedings from the beginning. Depending on future levels of Questar Gas segmentation on KRGT's system in the future, significant savings will continue to accrue to the customers of Questar Gas as a result of the FERC 486 series of orders.

<sup>&</sup>lt;sup>70</sup> Federal Energy Regulatory Commission, Kern River Gas Transmission Company, Initial Decision, Issued: April 14, 2011, Docket No. RP04-274-023.

<sup>&</sup>lt;sup>71</sup> Federal Energy Regulatory Commission, Kern River Gas Transmission Company, Opinion No. 486-E, Order on Initial Decision, Issued: July 21, 2011, Docket No. RP04-274-023.

<sup>&</sup>lt;sup>72</sup> Federal Energy Regulatory Commission, "Comments and, Alternatively, Protest of Questar Gas Company," September 19, 2011, Docket No. RP11-2356-001.

<sup>&</sup>lt;sup>73</sup> Federal Energy Regulatory Commission, "Answer of Kern River Gas Transmission Company to Comments and Protests," September 26, 2011, Docket Nos. RP11-2356 and RP04-274-023.

#### Ruby Pipeline Project

On January 27, 2009, Ruby Pipeline, L.L.C. (Ruby) filed with the FERC, an application, under Section 7(c) of the Natural Gas Act, to obtain a certificate of convenience and public necessity facilitating the construction and operation of an interstate pipeline system.<sup>74</sup> The Ruby system extends from Opal, Wyoming to Malin, Oregon. The decline in natural gas imports from Canada and anticipated long-term growth in the Pacific Northwest and California have provided impetus for the project. The project is comprised of approximately 680 miles of 42-inch diameter natural gas pipeline, four compressor stations and measurement facilities. The design capacity of the project is approximately 1.5 billion cubic feet per day. The most recently estimated capital cost is \$3.65 billion.

The route of the Ruby pipeline passes through northern Utah where Questar Gas has natural gas distribution facilities (see Exhibit 7.5). The pipeline crosses the southern end of Cache Valley (south of Logan, Utah) as it extends west in a route past Brigham City, Utah in Box Elder County. Because of the proximity to the facilities of Questar Gas, the Company evaluated an interconnection with Ruby just north of Brigham City, Utah near Mile Post 109 on the Ruby system (see Exhibits 7.6 and 7.7). Although analysis showed that a new Ruby gate station was not needed immediately, a tap valve was installed during the pipeline construction process to secure future benefits at a much lower cost. Those future benefits include reliability of service and supply diversity. A future gate station at this location is one option supporting the Company's plans to construct a north/south trunk line in the area.

On January 8, 2010, the Final Environmental Impact Statement was issued by the FERC and cooperating agencies. On April 5, 2010, the FERC issued a certificate, subject to certain conditions, authorizing the Ruby Pipeline to be constructed, operated and maintained.<sup>75</sup> Construction commenced on July 31, 2010.

On April 1, 2011, Ruby filed a petition with the FERC seeking amended authorization to allow it to revise its initial transportation rates as a consequence of an increase in the estimated cost of facilities. Due to an increase of approximately \$590 million in project costs, the monthly reservation rate filed for firm long-term transportation service was \$34.5826 per Dth and the commodity rate was \$0.0100 per Dth. The previously filed monthly reservation rate and commodity rate were \$30.9980 per Dth and \$0.0105 per Dth respectively.<sup>76</sup>

On July 28, 2011, the Ruby Pipeline was put into service. As of Feb 2012, the pipeline had firm transportation contracts for 1,035,000 MMbtu. This represents almost

<sup>&</sup>lt;sup>74</sup> Federal Energy Regulatory Commission, "Application of Ruby Pipeline, L.L.C. for a Certificate of Public Convenience and Necessity," Docket No. CP09-54-000, January 27, 2009.

<sup>&</sup>lt;sup>75</sup> Federal Energy Regulatory Commission, Ruby Pipeline, L.L.C., Docket No. CP09-54-000, "Order Issuing Certificate and Granting in Part and Denying in Part Requests for Rehearing and Clarification," Issued: April 5, 2010.

<sup>&</sup>lt;sup>76</sup> Federal Energy Regulatory Commission, "Second Petition of Ruby Pipeline, L.L.C. in Docket No. CP09-54 to Amend Order, Filed: April 1, 2011.

70% of the total available pipeline capacity. Of this amount, 375,000 MMbtu was purchased by PG&E, a local distribution company in California.

The impacts of the new pipeline being put in service can be seen throughout the west. The Ruby Pipeline creates a direct path from Opal, WY to Malin, OR. This provides customers in California with a low variable cost transportation alternative. The result has been a decreased spread between prices at Opal and Malin. Prices at Malin have stayed low relative to the price at Opal. Prices at other key points in the west have also stayed low compared to the Price at Opal. The additional access to western markets has also worked to support prices at Opal. Without the increased access provided by the Ruby Pipeline, the price at Opal would likely be even lower than it is today.

A good example of these impacts was seen during the second week of December. During this time, the Ruby Pipeline was forced out of service due to a force majeure event. The pipeline stayed out of service for a number of days. During this time, the spread increased by up to \$0.40. The spreads returned to near \$0.10 once the pipeline was back in service.

The other impact of the pipeline is the increase in available capacity from the Rockies to the west. While there have been no noticeable decreases in volumes on Northwest Pipeline or KRGT, the majority of additional volumes that are moving out of the Rockies are being shipped on the Ruby Pipeline. This will likely mean an increase in competition among pipelines as current contracts expire.

### No Notice Transportation Service

Questar Gas contracts with Questar Pipeline to receive No Notice Transportation (NNT) service. As part of order 636, NNT service was identified as the mechanism under which Questar Pipeline could continue to provide Questar Gas with the same service it was entitled to as a sales customer including the ability to meet Questar Gas' hourly demand swings. NNT service allows Questar Gas to receive gas volumes needed, even if those volumes are more or less than the volumes Questar Gas originally nominated according to Questar Pipeline's nomination requirements. NNT service provides flexibility that allows Questar Gas to receive volumes of gas to meet demand caused, for example, by unexpected changes in temperatures.<sup>77</sup> Temperatures within Questar Gas' service area can be among the coldest in the nation. Temperature swings along the Wasatch Front can be large, sudden and difficult to predict. The daily and even hourly gas demand resulting from changes in temperatures can be substantial. NNT service provides Questar Gas the ability to provide service within this ever-changing environment. NNT service allows Questar Gas to reserve transportation and storage capacity on Questar Pipeline during the regular nomination cycles the day prior to actual gas flow. Questar Gas uses its NNT quantity to facilitate withdrawals and/or injections of gas utilizing Questar Gas' capacity in Clay Basin and the aquifers in order to meet

<sup>&</sup>lt;sup>77</sup> For a more detailed discussion of the need for NNT service, see Questar Gas Company Integrated Resource Plan for Plan Year: May 1, 2008 to April 30, 2009, submitted May 1, 2008, pages 7-2 to 7-4 and Exhibits 7.2, 7.3 and 7.4.

Questar Gas customers' actual changing load without incurring overrun penalties and imbalances (see subsequent Storage Issues section).

With its NNT service, as long as Questar Gas makes the gas supplies available on demand, Questar Gas can make deliveries that exceed nominations in order to meet its actual demand requirements, and to avoid the nomination restrictions that would otherwise limit Questar Gas' ability to match its nominations to its needs. NNT service also allows Questar Gas to take less gas than it nominates, if circumstances warrant, without incurring penalties or imbalances. NNT service does not give Questar Gas the right to exceed its daily contract capacity and the delay swings must be within the NNT quantity reserved by Questar Gas.

### **Storage Issues**

Questar Gas holds contracts with Questar Pipeline and Ryckman for storage services at five underground gas storage fields to respond to seasonal winter and peak demands. The fields are Leroy, Coalville, Chalk Creek, Clay Basin and Ryckman. Storage capacity at Ryckman is new this year and is discussed in more detail later in this section. Leroy, Coalville, and Chalk Creek are aquifer storage facilities owned by Questar Pipeline that are utilized primarily for short term peaking. The aquifer facilities are fully subscribed by Questar Gas. Clay Basin is a depleted dry gas reservoir used for both seasonal base load and peaking purposes. Clay Basin, also owned by Questar Pipeline, is utilized by both Questar Gas and other open access storage customers. The Ryckman natural gas storage facility utilizes a partially depleted oil and gas field located approximately 25 miles southwest of the Opal Hub in southwest Wyoming. Like Clay Basin, Ryckman will be used by multiple parties for both seasonal base load and peaking purposes. Questar Gas' key capacity parameters for all of its storage facilities including Ryckman are outlined in the following table:

		Maximum	Maximum	Minimum	Sustained 3-
	Maximum	Injection	Withdrawal	Withdrawal	Day Peak
Facility	Inventory	Rate	Rate	Rate, MRD	Withdrawal
	(MDth)	(MDth/D)	(MDth/D)	(MDth/D)	(MDth/D)
Clay Basin	13,419	75+	112 to 222	112	n/a
Leroy	886	7 to 33	80	n/a	79
Coalville	720	7 to 21	68	n/a	53
Chalk Creek	321	6 to 11	37	n/a	26
Ryckman	2,500	12	17	17	17

## Leroy and Coalville Storage

Since the year 2000, the operation of the Leroy and Coalville storage facilities has been modified from procedures followed historically to provide more flexibility and enhance storage efficiency. Following the end of the withdrawal season, the inventories in these facilities have maintained a working gas capacity of approximately 50–75% of maximum through the summer months. Previous practice was to completely draw down the facilities each year at the end of the withdrawal season. The advantages of this revised mode of operation are as follows:

- Wells are not "watered out" at the end of the withdrawal cycle, improving well efficiency when refill injections are initiated in the fall.
- Injection compression fuel gas requirements are reduced (only 50% of the working capacity needs to be injected in the fall to fill the reservoir).
- A shorter, more predictable, and easily managed withdrawal/depletion schedule results at the end of the heating season.
- A shorter injection season for reservoir refill is required in the fall.
- The flexibility exists to inject significant volumes if required while the reservoirs are at 50% inventory.

In general, current operating practices at both the Coalville and Leroy facilities are as follows:

- Refill injections into the reservoirs commence in early September from an initial inventory of approximately 50% of maximum working inventory. Injections continue until an inventory of approximately 70% of maximum is reached by early October. Injections follow a specific well configuration and volume profile to minimize the potential for "fingering" and resulting gas loss.
- In early October, scheduled aquifer injections are halted to allow for the testing program conducted at the Clay Basin storage facility. The testing requires one day of injection at a controlled rate followed by a 7-day no flow period for pressure stabilization. Depending upon system demand and the gas supply situation during the no flow period, the 70% inventory at Leroy and Coalville affords the flexibility to either inject or withdraw to meet system balancing requirements.
- Following the Clay Basin test, controlled refill injections again commence in Coalville and Leroy with maximum inventory being reached by early November.
- Both Coalville and Leroy are utilized to meet peak load requirements through the heating season. During periods of lower winter demand, the reservoirs are refilled to maximum inventory when possible.
- During March, when the need for peaking withdrawals has passed, the reservoirs are partially drawn down (for use) to inventories ranging from 50–75% in preparation for Clay Basin testing conducted during April. The April Clay Basin test consists of a one week withdrawal period followed by 2 days of controlled withdrawal. Following the withdrawal period, Clay Basin is shut in for 14 days for pressure stabilization. Maintaining Coalville and Leroy at the indicated inventory range during this period provides the flexibility to either inject or withdraw based upon system balancing needs.

• At the end of the spring Clay Basin test, Leroy and Coalville are then drawn down to inventory levels of approximately 50–75% and then maintained at that level until refill commences in the fall. Periodically, Questar Pipeline reservoir engineering will completely blow down one aquifer when necessary to conduct an inventory volume verification analysis. Questar Pipeline has requested that the Coalville aquifer be blown down during the summer of 2012 for inventory verification. The longer-term plan for the Leroy aquifer is for blow-down to occur during 2013 or 2014. Tentative plans are for Leroy and Coalville inventory volume verification to occur every five years or so.

This mode of operation has enhanced the value of the peaking storage service to Questar Gas while not significantly impacting gas losses.

# Chalk Creek Storage

Due to the nature of the Chalk Creek storage formation, cycling and partial inventory maintenance during the summer is not practiced at this facility in order to minimize gas losses. Operation at Chalk Creek is as follows:

- Injections from zero working gas inventory commence in early November following a controlled well and injection profile.
- Maximum inventory is reached by mid-December.
- From December through early March, Chalk Creek is typically held in reserve unless very high demand periods are experienced.
- In early March, the reservoir is blown down in a controlled manner to zero working gas inventory and is then shut in until refill injections commence in the fall.

Emphasis is placed upon following the above operating procedures to minimize gas losses and ensure efficient storage facility operation.

# Clay Basin Storage

The Clay Basin storage facility is located in the northeast corner of Utah, roughly 50 miles from Rock Springs, Wyoming. The Clay Basin field has two producing sandstone formations, the Frontier and the Dakota. The Frontier formation is still producing natural gas today pursuant to the Wexpro Agreement, and the Dakota formation is used for storing gas. The Dakota formation was largely depleted by 1976 when construction of the storage facilities began. The Clay Basin reservoir today has the largest capacity of any underground storage facility in the Rocky Mountain Region.

Questar Gas receives storage service at Clay Basin under rate schedule FSS. Billing under rate schedule FSS consists of two monthly reservation charges and separate per unit usage fees for injection and withdrawal. The first reservation charge is based on each Shippers minimum required deliverability (MRD) as stated in each Shippers' storage service agreement. The tariff provisions governing Clay Basin assure that customers will receive at least their MRD. To the extent that Shippers have inventory in excess of that necessary for their last day of withdrawals, additional deliverability is available for allocation according to predetermined formulas (see the previous table for the MRD of Questar Gas). The second monthly reservation fee is an inventory capacity charge based on each Shipper's annual working gas quantity.

During the Fall of 2011, Questar Pipeline announced a non-binding open season to determine interest in an additional 8 Bcf of firm storage capacity at Clay Basin. A unique feature of this new firm capacity is that it does not guarantee an MRD making it not as valuable as existing firm capacity. The open season was from October 4, 2011 to October 31, 2011. Questar Gas participated in this non-binding open season and performed some modeling analysis on this potential new capacity.

## Clay Basin Gas Quality

During 2007, when Questar Pipeline was resolving CHDP issues on its transmission system, it also remedied CHDP issues at its Clay Basin storage facility. On August 23, 2007, Questar Pipeline filed, with the FERC, revisions to its tariff, Questar Pipeline also filed the "Stipulation and Agreement" negotiated with all of the Clay Basin storage customers. Included with the filing was the "Joint Petition of Questar Pipeline and Firm Customers for Approval of Stipulation and Agreement and Request for Expeditious Action."<sup>78</sup> The FERC accepted the revised tariff sheets on November 7, 2007, to be effective on January 1, 2008 and also approved the Stipulation and Petition.<sup>79</sup> As a result of these FERC actions, the Kastler Processing Plant was refunctionalized as a Clay Basin storage asset (previously it was a transmission asset) and additional processing facilities were installed, thus ensuring a total delivery capability of 320,000 Dth per day to either Northwest Pipeline or Questar Pipeline. This project was completed in December of 2008 at a cost of approximately \$12 million. The costs associated with conditioning storage gas, including the installation and operation of these new facilities were expected to be recovered from the sale of natural gas liquids over a 20-year time period. For the first three accounting periods since January 1, 2008, the sales of natural gas liquids have exceeded the costs of service of the Kastler facilities, and Questar Gas received its pro rata share of the surplus. At its March 8, 2012 customer meeting, Questar Pipeline indicated that for the May 2011 through April 2012 time period, it was expected that the liquids revenues would fall short of the costs of service. Any such shortfall will have the effect of increasing, during July of 2012, the in-kind Fuel Reimbursement required of Questar Gas and all other Clay Basin Shippers under Questar Pipeline's tariff. The refunctionalization of the Kastler Plant and the installation of new processing facilities have effectively resolved the liquids issues at Clay Basin.

<sup>&</sup>lt;sup>78</sup> Questar Pipeline Company, Docket No. RP07-606-000, FERC Gas Tariff Filing, August 22, 2007; and Questar Pipeline Company, Docket No. RP07-606-001, Amended FERC Gas Tariff Filing, August 30, 2007.

<sup>&</sup>lt;sup>79</sup> Federal Energy Regulatory Commission, Questar Pipeline Company, Docket Nos. RP07-606-000 and RP07-606-001, Letter Order Accepting Tariff Sheets dated November 7, 2007, "Reference: Stipulation, Petition, and Revised Tariff Sheets."

#### Ryckman Creek Gas Storage

The Ryckman Creek Gas Storage Project (Ryckman) is owned by Peregrine Midstream Partners LLC (Peregrine). The 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 (see Exhibit 7.8). Working gas capacity for the first phase of the project is approximately 18 Bcf. Initial injection rates are approximately 210 MMcfd and withdrawal rates are up to approximately 210 MMcfd. It is expected that the working gas inventory will be able to be cycled from one to three times per year. Ryckman purchased the existing Canyon Creek Compression facilities which have been incorporated into the project. The facility will interconnect with KRGT, Questar Pipeline, Northwest Pipeline and Overthrust Pipeline. A future interconnect with Ruby Pipeline is planned.

Ryckman held a non-binding open season from October 6, 2010 to November 1, 2010. Responses were received by 25 companies for more than 50 Bcf of capacity.<sup>80</sup> Questar Gas was not invited to bid for capacity in the open season, but the Company subsequently contacted Ryckman and engaged in discussions. On November 8, 2010, Ryckman filed with the FERC, its application for a certificate of public convenience and necessity to develop, construct, own, operate, and maintain this facility.<sup>81</sup> Ryckman requested that the FERC approve the application by April 15, 2011, with all authorizations to proceed with the project. Ryckman also requested authorization to charge market based rates.

Effective April 18, 2011, Questar Gas entered into a Firm Gas Storage Service Agreement with Ryckman for 2,500 MDth of storage capacity. On April 22, 2011, an environmental assessment of the Ryckman project was issued by the staff of the FERC. And, on July 28, 2011, a certificate of public convenience and necessity was issued by the FERC to Ryckman to construct and operate the proposed facilities.<sup>82</sup>

On August 3, 2011, Peregrine announced that EQT Infrastructure had acquired 70 percent of Peregrine. EQT Infrastructure is part of the EQT family of private equity funds based in Northern Europe. This investment in Peregrine provided funding to facilitate the completion of the Ryckman Creek Storage Facility.<sup>83</sup>

It is not expected that the Ryckman storage facilities will be available for the injection of natural gas by Questar Gas until late summer 2012 at the earliest. Once the facility is fully functional and in-service, Questar Gas intends to fully utilize this new resource.

 <sup>&</sup>lt;sup>80</sup> "Bids for Wyo. Storage Exceed Proposed Capacity," Platts Energy Trader, November 5, 2010, Page 11.
<sup>81</sup> Federal Energy Regulatory Commission, Ryckman Creek Resources, LLC, CP11-24, "Abbreviated

Application of Ryckman Creek Resources, LLC for a Certificate of Public Convenience and Necessity Authorizing Construction and Operation of an Interstate Natural Gas Storage Facility, Blanket Certificates and Approval of Market-Based Rates Under Section 7 of the Natural Gas Act," November 8, 2010.

<sup>&</sup>lt;sup>82</sup> Federal Energy Regulatory Commission, Ryckman Creek Resources, LLC, CP11-24 and CP08-433, "Order Issuing Certificate and Approving Abandonment," July 28, 2011.

<sup>&</sup>lt;sup>83</sup> "EQT Infrastructure Acquires Peregrine Midstream Partners," Houston, Texas, August 3, 2011, www.peregrineempllc.com/news/press\_releases/" accessed: March 6, 2012.

### Magnum Gas Storage

The Magnum Gas Storage Project (Magnum) involves the construction and operation of a high deliverability, multi-cycle salt cavern storage facility, and a connecting header pipeline. The proposed project would consist of an underground storage facility consisting of four caverns with a combined working gas storage capacity of 42 Bcf. The storage caverns would be approximately one mile north of the town of Delta, Utah. Magnum anticipates that the project would be capable of injecting up to 0.3 Bcf per day and withdrawing up to 0.5 Bcf per day. The Magnum facilities would be able to cycle inventory from nine to twelve times each year. The storage facility would be interconnected with the interstate transmission systems of KRGT and Questar Pipeline near the town of Goshen, Utah with a 61.6-mile, 36-inch diameter header pipeline. The original plan was for the header pipeline and the first cavern to be in service by July of 2014. The second cavern was expected to be completed one month later. The planned completion dates for the third and fourth caverns are June 2021 and December 2027. A map of Magnum's proposed facilities is shown in Exhibit 7.9.

On June 10, 2009, Magnum announced the start of a non-binding open season for its Magnum Gas Storage Project with expressions of interest in storage-related services associated with the project to be made by July 31, 2009. Questar Gas responded to the open season and subsequently engaged in discussions with Magnum representatives.

Magnum filed its application with the FERC, on November 17, 2009, requesting, pursuant to Section 7(c) of the Natural Gas Act, a certificate of public convenience and necessity.<sup>84</sup> On March 17, 2011, the FERC issued an order conditionally granting the requested certificate and the request for market-based authority. The Commission denied Magnum's request for a limited-jurisdiction certificate and blanket construction certificate for the water supply and brine management facilities.<sup>85</sup>

On March 23, 2011, Magnum responded to the March 17, 2011, order by accepting the certificate of public convenience and necessity. Magnum also indicated to the FERC that Magnum would construct and operate all of the project's jurisdictional facilities including the water supply and brine management facilities.<sup>86</sup>

Magnum has indicated that its non-binding open season resulted in twenty-six conforming responses and two non-conforming responses for a total storage capacity exceeding 42 Bcf. Magnum engaged in the negotiation of precedent agreements with a

<sup>&</sup>lt;sup>84</sup>Federal Energy Regulatory Commission, Magnum Gas Storage, LLC, Docket No. CP-10-22,

<sup>&</sup>quot;Abbreviated Application for Certificate of Public Convenience and Necessity Authorizing Construction and Operation of Natural Gas Storage Facility, For Limited Jurisdiction Certificate Authorizing Construction and Operation of Cavern Leaching Facility, For Blanket Certificates and for Approval of Market-Based Rates Under Section 7 of the Natural Gas Act," November 17, 2009.

<sup>&</sup>lt;sup>85</sup>Federal Energy Regulatory Commission, Magnum Gas Storage, LLC, Magnum Solutions, LLC, Docket No. CP-10-22, "Order Granting and Denying Certificates," March 17, 2011.

<sup>&</sup>lt;sup>86</sup> Federal Energy Regulatory Commission, Magnum Gas Storage, LLC, "Acceptance of Certificate of Public Convenience and Necessity," Docket No. CP-10-22, March 23, 2011.

number of the parties submitting open season responses.<sup>87</sup> On May 26, 2011, Magnum received approval from the FERC to commence drilling the monitoring wells associated with the project. On December 5, 2011, Magnum received authorization from the FERC to proceed with the construction of certain Phase I Facilities.<sup>88</sup> By January of 2012, Magnum indicated that construction activities had been placed on hold and that construction would not be initiated at that time as planned. Magnum is planning on developing natural gas liquids storage ahead of natural gas storage.

### Storage Modeling in SENDOUT

The costs, contractual terms and operating parameters for each of the five storage facilities subscribed to by Questar Gas are modeled in SENDOUT. A forecast of the storage inventory available at the beginning of the first gas-supply year is also needed for each storage facility for the SENDOUT modeling process. This year, it is expected that the June 1, 2012, inventory for Clay Basin and Ryckman, the two facilities with the largest capacities, will be approximately 1.8 Bcf and 0.0 Bcf respectively.

<sup>&</sup>lt;sup>87</sup> Federal Energy Regulatory Commission, Magnum Gas Storage, LLC, Magnum Solutions, LLC, Docket No. CP-10-22, "Order Granting and Denying Certificates," March 17, 2011, pp. 4, 5.

<sup>&</sup>lt;sup>88</sup> Federal Energy Regulatory Commission, "Re: Notice to Proceed with Construction of Partial Phase I Facilities, and approval of the Implementation Plan for the Magnum Gas Storage Project," Letter from Alisa M. Lykens to Tiffany A. James, December 5, 2011.