SYSTEM CONSTRAINTS AND CAPABILITIES

Questar Gas System Overview

Gas supply costs are the primary focus of the IRP process because they represent a major portion of the total utility cost of service as opposed to the electric utility industry where physical plant and the control of the respective costs are typically the focus of electric IRPs. Nonetheless, an important element of natural gas IRPs is an analysis of the physical plant used to deliver the product to the consumer. The capacity of the system must meet the forecasted load in order to provide reliable service to the customer.

Historically, Questar Gas customers have been served by an integrated transmission and distribution system connecting natural gas fields in Utah, Wyoming and Colorado to the Company's Utah, Wyoming, and Idaho markets. This original integrated system remains intact. Questar Gas' ability to serve its customers is dependent upon gas transmission companies such as Questar Pipeline Company (Questar Pipeline) and Kern River Gas Transmission Company (Kern River). To a much smaller extent, the Company relies on deliveries from Northwest Pipeline Corporation to serve the towns of Moab, Monticello and Dutch John, and Colorado Interstate Gas Company to serve the town of Wamsutter. These pipeline systems and costs are part of the modeling process discussed in other IRP sections. This section will concentrate mostly on Questar Gas' local distribution system.

With continued growth in the number of firm customers, Questar Gas' system is near capacity and new facilities are required to meet the growing customer demand. As part of its planning process, Questar Gas is continually looking at cost-effective ways to meet future capacity needs, as explained later in this section, and to enhance reliability of service to its customers. The following sections review Questar Gas' existing system, capacity, firm transportation issues, system reinforcement projects, system expansion to new service areas and integrity management programs.

Questar Gas receives gas from seven city gates to serve the Wasatch Front. To serve additional areas, Questar Gas has 25 additional main interconnects with pipelines in Utah. In addition, there are several taps/interconnects serving individual customers directly off the interstate pipelines. In 1994, an interconnect in Salt Lake City with Kern River was completed (Hunter Park Tap). In 2002, a second Kern River tap was installed (Riverton Tap). These interconnects increased system capacity, deliverability, reliability, and provided an alternate source of gas supply into Questar Gas' system. There are another ten interconnects with pipelines in Wyoming serving Questar Gas' Wyoming communities.

Questar Gas' Utah based delivery system consists primarily of five separate systems. The Northern System is responsible for all gas deliveries along the Wasatch Front and the area to the east, including Duchesne County, Carbon County, Emery County and Uintah County. The Uintah County System includes Vernal, Utah which is one of the systems that was purchased from Utah Gas. Exhibit 4.1 represents a detailed schematic of Questar Gas' high-pressure feeder line system and the major city gates for the Wasatch Front. The Central

System serves Utah cities that lie along the Kern River corridor in portions of Juab, Millard, Iron and Washington Counties as depicted on Exhibit 4.2. The Southern System delivers gas to communities south of Questar Gas' Indianola gate station in Sanpete, Sevier, Garfield, Piute and portions of Iron and Washington Counties. This system is fed by three sources at Indianola, WECCO, and Central stations. This system is depicted in Exhibit 4.3. Questar Gas' Wyoming System consists of deliveries to Evanston, Rock Springs and other communities. This system is shown in Exhibit 4.4. The Eastern System is responsible for deliveries to Moab, Monticello and Dutch John. The Moab, Monticello and Dutch John Systems were also purchased from Utah Gas and this system is fed by Northwest Pipeline Corporation as shown in Exhibit 4.5

Northern System

Questar Gas' current Wasatch Front system takeaway capacity is adequate to meet the total 2008/2009 peak day. The projected peak day firm sales load for 2008/2009 is forecasted to be 1,064,962 Dth/d. In addition to this firm sales obligation, there is a projected firm transportation obligation of 290,588 Dth/d bringing the total projected sales plus contracted transportation peak obligation to 1,355,550 Dth/d.

In order to meet its firm obligations on the Northern System, Questar Gas depends on deliveries to its city gates from Questar Pipeline and Kern River. During a peak day event the Kern River pipeline supplies the difference between Questar Gas' total firm obligation and Questar Pipeline's Wasatch Front contracted delivery capacity to Questar Gas. There is sufficient takeaway capacity at the Hunter Park Tap and the Riverton Tap to accommodate this load. The actual distribution of loads and supplies on a peak day could require higher deliveries from Kern River to ensure system reliability.

Under actual winter-time operating conditions, the distribution system does not operate in a steady-state mode, but rather undergoes significant pressure and volume transients over the course of a day. The integrated nature of the system, along with the two Kern River taps, lessen the impact of these transient effects and ease operation by providing a source of gas directly into the Wasatch Front.

Because Questar Gas has contractual rights to receive gas from two different pipeline companies, it is equally important to maximize the flexibility for delivery from these pipeline companies. With both pipelines operating in close proximity with each other, there may be times when instantaneous demand along Questar Gas' system is significantly different than the gas supplies Questar Gas has nominated on a daily basis from Kern River and Questar Pipeline. In this situation, Questar Gas utilizes no-notice transportation (NNT) on Questar Pipeline to meet the transient-flow effects. (See discussion under Transportation Issues section.)

Questar Gas is, and will continue to be, in the process of contracting for peaking gas purchases for the 2008/2009 winter season to be delivered at the Hunter Park or Riverton (as well as WECCO) taps.

Questar Gas' actual take away capacity from most of the city gates is higher than the existing delivery contracts. The incremental capacity on Questar Gas' distribution system is dependent on the pipeline facilities and operating mode of the transmission systems upstream of the city gates. The take-away capacity from the Hunter Park and Riverton taps is dependent on metering capacity, regulating pressures, and the distribution of loads on the Questar Gas system.

Flow modeling is done using a steady-state gas network analysis program. The minimum pressure required for proper operation of the regulating stations located throughout the high-pressure distribution system is 125 psi. The minimum steady-state design pressure of the distribution system is 175 psi. With the replacement of Feeder Line 7 with 12 inch pipe, the low pressures on the system now occur near the end of Feeder Line 36 in South Jordan.

As mentioned before, capacity is a function of load distribution and mode of operation. If a high percentage of loads are concentrated close to city gates the system has a higher capacity. Moreover, system capacity is affected by the mode of operation and the pressures upstream pipelines can maintain at city gate stations.

Central System

The Central System is served from several Kern River taps located along its pipeline corridor. This system does not include any of the areas served by the 8-inch mains from Indianola Station, WECCO or Central taps. The distribution systems that serve the central region are relatively new with relatively slow growth and no reinforcements for these areas are anticipated in the near term. Peak demand of approximately 5,963 Dth/d is allocated for the Central System.

Southern System

The sources of supply to the Southern System are from Questar Pipeline at Questar Gas' Indianola Station and Kern River through the WECCO and Central taps (see Exhibit 4.3). The take-away capacity from these three supply taps is 77,500 Dth/d (21,000 Dth/d at Indianola, 34,000 Dth/d at WECCO and 22,500 Dth/d at Central). Questar Gas' ability to nominate significant quantities of gas from these taps provides Questar Gas the flexibility needed in meeting short-term future load growth. The 2008/2009 peak day firm forecast for the Southern System is 75,867 Dth per day. There is sufficient pipeline and tap capacity on the Southern System to meet this projected load.

The Southern System has been operating at maximum capacity for gas volumes transported southward from the Indianola gate for several years now. Firm gas purchases and/or firm capacity purchases from Kern River are required to meet existing and all new firm customer demands on the Southern System. In order to keep up with new growth for

this part of the system, the metering capacity of the Questar Gas owned meters at WECCO and Central was increased in October of 2004.

Forecasts show that with the current level of growth in the Southern System the load will soon surpass the delivery capacity of the existing stations and the take-away capacity of the existing pipeline infrastructure. Station and pipeline improvements are currently being planned to increase deliverable capacity to this system.

The majority of the growth in this area is concentrated in the southern part of the Southern System. This dictates that a system enhancement in this area is most likely to be served by Kern River in the southern part of the System. The long 12 and 8-inch diameter pipeline from Indianola Station does not have enough capacity to deliver more gas to the southern part of the system.

Wyoming System

The Wyoming System serves the cities of Evanston, Rock Springs, Lyman, Kemmerer, Baggs, Granger and other communities. The source of supply for these systems is from Questar Pipeline.

Eastern System

The Eastern System serves the towns of Moab, Monticello and Dutch John. The source of supply to the Eastern System is from Northwest Pipeline. These are each separate small distribution systems. The Moab and Monticello systems were previously owned by Utah Gas. The takeaway capacity of the Monticello system is limited by the long 4 inch main from the tap to the city regulator. The 2008/2009 peak day firm forecast for the Eastern System is 5,058 Dth/d.

HP Feeder Line System Modeling and Reinforcement

On an on-going basis, Questar Gas monitors and analyzes the High Pressure (HP) feeder line system to determine the system's ability to deliver peak day supply and meet pressure demands. Pipe sizing and configuration are checked to ensure adequate pressures and flows are provided to meet regulator-station and customer demands throughout the system.

The Company's engineers primarily rely on the Advantica SynerGEE software package to model gas flows and pressures on the system. Supply demands from regulator-stations and customers are balanced with natural gas supply receipt points on the system. Regulator station and receipt point operating pressures are used to calibrate and validate data used in the model.

Intermediate High Pressure (IHP) Distribution System Modeling and Reinforcement

Each year Questar Gas monitors and analyzes the IHP distribution systems to determine their abilities to withstand the demands of a peak day event. Regulator station capacities and locations are checked and pipe sizing and configuration are evaluated to ensure adequate pressures and flows throughout the system.

To accomplish this task, the Company's engineers have at their disposal a number of tools to provide the information needed to appropriately configure the IHP distribution systems. The most important tool is the Advantica SynerGEE modeling software package. The Questar Gas engineers are using models that are automatically generated using graphical information system (GIS) mapping information (for physical pipe configuration) and customer information system data (for determining peak hourly loads). These models are used to evaluate pressure/flow relationships and required regulator capacities under peak-day conditions. In addition to using the SynerGEE modeling software, pressure recording charts are placed throughout the IHP distribution system in strategically located areas to provide a record of the pressure in a given area. These charts are also used to calibrate and validate the data used in SynerGEE models. Flow computers, regulator station charts, and other sources of information are also used to ensure the IHP systems are configured and sized to meet peak-day demands.

Questar Gas continues to focus on two aspects of the IHP distribution systems. The first is the need to provide IHP main reinforcements to various areas of the IHP distribution systems where pressures below 20 psig are predicted using SynerGEE modeling software, where pressure recording charts indicate a problem exists or where exceptional amounts of growth have occurred. As a result of this modeling process, a significant amount of IHP main was installed to reinforce the system over the previous year.

The second area given priority is evaluating the ability of regulator stations to provide the predicted flow under peak-day conditions. Stations that do not meet the model flow requirements are evaluated and solutions are provided to remedy the situation. The solutions may include the replacement of regulators, adjustment of set points, replacement of low capacity stations with medium-capacity stations, replacement of medium-capacity with high capacity stations, tying regulator stations together with additional IHP main or installation of new regulator stations. Based on the model calculations and the modifications and reinforcements made, the end result is the assurance that each one of the regulator stations identified has adequate capacity for the upcoming heating season.

Questar Gas High-Pressure (HP) Pipeline Projects

Questar Gas typically constructs high-pressure pipeline projects for one of three reasons: general reinforcement, replacements and system expansion. Reinforcement projects are required to meet the existing and future demands of firm customers. The projects can either be installed to help reinforce pressures and capacities on the Questar Gas HP feeder

line system, or they can be used to improve pressures on Questar Gas' IHP system. The pressures and capacities on the distribution system as a whole are the key drivers in the decision making process. Factors that contribute to the design and configuration of reinforcement projects include acquisition of real property, location and sizes of existing HP and IHP mains and the condition of the existing system. The following is a short summary of recent and future Questar Gas reinforcement projects.

Questar Gas Reinforcement Projects

Utah

Questar Gas completed the following general reinforcement projects in 2007:

1. Feeder Line 47, Syracuse, Utah: This project involved the installation of approximately 18,000 linear feet (lf) of 8-inch HP pipe from the existing dead-end of Feeder Line 47 in Clearfield to a new regulator station site in Syracuse. The IHP system in Syracuse needed to be reinforced with additional regulator stations to accommodate growth. The location of the new HP main was determined by analyzing the IHP gas network analysis (GNA) model and determining the best location to place a regulator station within the existing distribution system of Syracuse.

2. Feeder Line 83, Mountain Green, Utah: This project involved the installation of approximately 9,500 lf of 8-inch and 6-inch HP pipeline from a new tap on Feeder Line 83 in Mountain Green to two new regulator stations along Highway Road. Significant residential growth in Mountain Green was the primary driver for the project. As an interim measure, Questar Gas extended IHP piping to these areas in 2005. However, continued growth made it necessary to extend the HP main and install regulator stations. Sizing, location and length of the main were determined by the GNA model.

Questar Gas is constructing the following reinforcement projects in 2008:

1. Feeder Line 105, West Haven, Utah: Significant residential and commercial growth in the West Haven area is driving the need for this project. This project will involve the installation of approximately 24,000 lf of 8-inch HP pipeline from 1100 South and 4700 West in Weber County to 4000 South in West Haven. Questar Gas is currently finalizing alignment sheets for this project. The project is scheduled to start construction in mid-April. The estimated cost for this project is $5,100,000.

2. Feeder Line 16, Heber, Utah: Questar Gas is currently in the design stages for approximately 18,500 lf of 8-inch HP pipeline in Heber, Utah. The project will run from approximately 500 North and Main Street to Lake Creek Road at about 400 East. Significant residential development on the east side of Heber City has been the driver for the project. Questar Gas has been

reinforcing IHP mains in the area, but increased growth has made it necessary to extend HP service to the east side of Heber. Questar Gas has utilized GNA modeling to determine the best location for the new regulator station to serve both existing and future loads. The estimated cost for this project is $3,108,000.

Questar Gas is planning the following reinforcement projects for 2009:

1. Providence, Utah Feeder Line: Significant growth in Providence, Utah and the surrounding communities is driving the need for high pressure reinforcement. The plan is to tap Feeder Line 23 near regulator station LG0004 in Nibley and run approximately 12,500 lf of 6-inch HP main along 3200 South to a new station near Highway 65. Questar Gas is currently analyzing the needs of the area to determine if the project needs to be constructed in 2009 or if it can be delayed until 2010. A cost estimate has not yet been prepared for this work.

2. Park City, Utah Feeder Line: Increasing demand on the HP system in Park City is the driver for a potential feeder line reinforcement in the Park City area. Questar Gas is currently using GNA modeling to look at various options for increasing feeder line pressures in Park City. Some of the factors that are included in the planning and decision making process include cost and right-of-way (ROW) availability. It is anticipated this project will be constructed in the summer of 2009. A cost estimate has not yet been prepared for this work.

In addition to the proposed projects listed above, Questar Gas is currently analyzing options and routes for reinforcing the high pressure system in St. George, Utah. Customer growth in the region has greatly increased the demand for natural gas on the system. Some of the options that are currently being explored include: looping Questar Gas' Feeder Line 81 from the Kern River Pipeline tap to St. George City, installing a new Kern River tap and running a new feeder line, or adding compression and increasing pipe diameter along Questar Gas' Feeder Lines 64, 65, 66, 67 and 68. While analysis is not complete, all indications appear that Questar Gas will need to install one of these options by the 2010-2011 heating season. Cost estimates have not yet been prepared for these scenarios.

Wyoming

Questar Gas currently does not have any replacement projects scheduled but continues to monitor its Wyoming service territory for future reinforcement and replacement needs.

Questar Gas Replacement Projects

Replacement work is required on a periodic basis to replace aging infrastructure. Unlike reinforcement projects that are customer and system driven, replacement projects are driven by system integrity needs. Questar Gas analyzes all replacement projects with GNA

models to determine the appropriate size for replacement pipes. Accordingly, Questar Gas is often able to improve and reinforce its system when it replaces facilities.

Questar Gas completed the following replacement projects in 2007:

1. Feeder Line 26, Phases Va and VI, Orem, Utah: This project included the replacement of approximately 24,000 lf of HP main in Utah County and completed the final phases of a five year long process to replace Feeder Line 26. While the main purpose for the replacement was to replace aging infrastructure, Questar Gas used GNA modeling to determine the appropriate size for the replacement pipe. The existing 18-inch pipe was replaced with 24-inch pipe. The new pipeline was designed and constructed to allow for internal inspection from Questar Gas' Payson Gate Station to Geneva Road in Orem.

2. Feeder Line 7, Salt Lake City, Utah: This project included the replacement of approximately 87,500 lf of 6-inch, 8-inch and 12-inch HP pipe with 12-inch HP pipe. The project ran along State Street in Salt Lake County from 3300 South to the Utah County Line. The main driver for the replacement of this Feeder Line was to remove aging pipe and to re-configure the pipeline to allow for internal inspection.

3. Feeder Line 18 Phase II, North Layton, Utah: This phase concluded a two-year project to replace approximately 9,000 lf of aging pipe on Feeder Line 18 in North Layton.

Questar Gas is constructing the following replacement project in 2008:

1. Feeder Lines 4, 5, and 11, Salt Lake City, Utah: This project is a continuation of Questar Gas' multi-year plan to replace aging pipe within its system. The project will involve the replacement of approximately 85,500 lf of 8-inch, 16-inch and 20-inch HP pipe with 24-inch HP pipe. The project runs along 3300 South in Salt Lake County between 2700 East and approximately 8000 West in Magna. Questar Gas utilized GNA modeling to determine the appropriate replacement diameter that would meet future load requirements. The estimated cost for this project is $45,000,000.

Questar Gas is planning the following replacement project in 2009:

1. Feeder Line 19, Weber Canyon to Harrisville, Utah: The project is part of Questar Gas' replacement/reinforcement plan. The project will involve the replacement of approximately 82,500 lf of 10-inch and 20-inch HP pipe with 24-inch HP pipe. Questar Gas utilized GNA modeling to determine the appropriate size of replacement pipe to meet anticipated future loads. The estimated cost for this project is $45,000,000.

Questar Gas System Expansion Projects

System expansion projects are driven by new customer growth. In past years this growth has been largely residential. Several large residential developments have been constructed in outlying areas. These projects can only be served by extending HP pipelines to the area. Recently, there have been several large residential projects constructed around the Jordanelle Reservoir in Summit and Wasatch Counties. Questar Gas has worked with the developers of these projects to extend natural gas service to their communities. In general, Questar Gas analyzes the customers' needs and determines the minimum-sized system (Minimum System) that is required to serve the development. The developers of the projects are required to pay the actual costs of the Minimum System.

Questar Gas also worked with large commercial and industrial customers to extend natural gas service to their projects. Questar Gas uses the same Minimum System concept to pass along actual costs to the customers that are requesting service.

Questar Gas sizes the pipe required to serve these expansion projects to serve additional firm sales customers in the future. Questar Gas utilizes GNA modeling and information on growth rates to determine the appropriate size of pipe to install.

Questar Gas is constructing the following system expansion projects in 2008:

1. Feeder Line 106, Box Elder County, Utah: This project consists of the installation of approximately 31,000 lf of 12-inch HP pipe extending from Questar Gas' Feeder Line 29 in Box Elder County to the new site for Proctor and Gamble on approximately 5315 North Wakegan Road in Bear River. The project is being installed primarily to serve Proctor and Gamble. However, Questar Gas has increased the line size to allow for additional customer growth and the ability to reinforce the entire system in this area. The total estimated cost for this project is $5,700,000. The incremental first-year revenue requirement for this project is estimated to be $235,000. This project is expected to commence in June 2008.

2. Feeder Line 99, SR-248, Summit County, Utah: This project consists of the installation of approximately 10,600 lf of 8-inch HP pipe extending from Questar Gas' Feeder Line 99 near Browns Canyon to the new IHC hospital site located at the northwest intersection of SR-248 and SR-40 in Summit County. The total estimated cost for this project is $1,647,000. The incremental first-year revenue requirement for this project is estimated to be $69,000. This project is expected to commence in May 2008.

3. Feeder Line 99, SR-248, Summit County, Utah: This project is the continuation of a project that was started in the fall of 2007 to provide natural gas service to the Victory Ranch subdivision near Francis, Utah. The project consists of the installation of approximately 21,200 lf of 12-inch HP pipe, extending from the existing termination point of Feeder Line 99 near the

Tuhaye subdivision to the Victory Ranch Subdivision. Victory Ranch is paying for their actual Minimum System costs. Victory Ranch will pay a contribution of $2,153,000. The incremental first-year revenue requirement for this project is estimated to be $467,000. This project will be started in June 2008.

Questar Gas Relocation Projects

In addition to the types of projects listed above, Questar Gas is often required or requested to relocate its existing facilities to allow for future residential and commercial development or state and local road projects. While these projects occur routinely on an annual basis and are too numerous to list here, Questar Gas' policy on relocating facilities should be discussed.

If Questar Gas is asked to relocate facilities in areas in which it owns private rights-of-way (ROW), then the requestor is required to pay 100% of actual relocation costs. If the Questar Gas facilities are not in private ROW, but instead located on government-owned property, then the terms of the ROW agreement apply for the reimbursement of the relocation. Typically, if the requestor is a city or county entity, Questar is required to relocate the pipe at its cost. If the requestor is the Utah Department of Transportation (UDOT), state statute requires that 50% of the cost of the relocation is borne by UDOT.

In addition to the relocation projects discussed above, there are a few potential projects that could affect Questar Gas facilities in the near future. These include Kern River's proposal to increase maximum allowable operating pressure (MAOP) and UDOT's proposal to build the Mountain View Corridor road project.

Kern River is currently in the process of determining the feasibility of increasing the MAOP on their lines from 1,200 psig to 1,333 psig. If this proposed MAOP is approved, Questar Gas will have to modify all its tap facilities along the Kern River Pipeline. In most instances this could be achieved by pressure testing the facility. In other cases, existing equipment will have to be replaced. Questar Gas estimates that approximately 10 tap stations could be impacted.

The Mountain View Corridor is a proposed UDOT highway project running from 2100 South and 5600 West in Salt Lake City to Utah County. The Draft Environmental Impact Statement (DEIS) study has been completed and the preferred corridor outlined in the DEIS is the 5600 West corridor. Questar Gas owns several pipelines in the corridor that could be affected by the new highway. In particular, Feeder Lines 10 and 104. The scope of all potential relocations is not known at this time. However, since Questar Gas' feeder lines are located within privately held ROW, UDOT would be responsible for 100% of the costs to relocate the feeder lines.

Regulatory Drivers for Increased Costs – Pipeline Safety and Environmental

The federal government continues to take an aggressive stance toward increasing pipeline safety for natural gas pipelines. The United States Congress and the U.S. Department of Transportation both continue to have a broad national agenda for increasing natural gas pipeline safety. 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. The full text of these recent pipeline safety laws can be found online at:

http://ops.dot.gov/library/docs/107_cong_public_laws.pdf

http://ops.dot.gov/regs/PIPES_Act_of_2006_PL109_468.pdf

To comply with the federal requirements, operating and capital expenditures for Questar Gas have increased. The impacts of some of the more significant recent federal actions are further discussed below. It is likely that further increases in operating and capital expense will result from aspects of this aggressive federal agenda on pipeline safety, particularly as new distribution integrity management regulations are implemented, as discussed below.

Transmission Integrity Management

The most significant changes with respect to current operating costs are the rules established for transmission integrity management at 49 CFR Part 192, Subpart O – Pipeline Integrity Management. Title 49 CFR §§ 192.901 through 192.951 provide an overview of the scope of the requirements applicable to transmission pipelines located in highly populated areas. As required under these regulations and the "Pipeline Safety Improvement Act of 2002," Questar Gas must perform extensive risk analyses, data integration, integrity assessments, remedial repair, and preventive and mitigative measures for transmission pipelines located in highly populated areas defined under the regulations as "high consequence areas" (HCAs).

To date, Questar Gas has completed baseline assessments on over 50% of its mileage in HCAs as required by federal law. Fortunately, the Company is finding very few "immediate repairs" (defined under the regulations) and is not currently experiencing any serious failures within HCAs. However, there is also a continuing need to invest in capital replacements and infrastructure upgrades to the feeder line system. Questar Gas continues to replace aging pipe. Capital replacements and upgrades to the feeder line system will need to continue. Replacement projects are adaptive and may change. The intent of the replacement programs is to proactively maintain pipeline safety and system reliability.

Many of the incremental operating costs for integrity management activities are being captured and addressed through a deferred accounting mechanism approved by the Utah Commission. There are also incremental capital costs that are created, such as the approximate $2 million in 2006 for retrofitting a portion of Feeder Line 4 to allow

approximately 10 miles (3.4 miles of HCA) of integrity assessment utilizing internal, in-line inspection tools (also referred to as "smart pigs").

Distribution Integrity Management

The "Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006" mandates new regulations for distribution integrity management that are currently under development by the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA.) To date, a Notice of Proposed Rulemaking for the new regulations has not been issued by the agency, but is expected sometime in 2008. Recent briefing sheets from PHMSA suggest a final rule is possible as early as spring of 2009.

The recent briefing sheets from PHMSA further suggest that a distribution integrity program will require the following elements:

- Understanding of the operator's system/infrastructure
- Identification of threats potentially affecting the system
- Assessment and prioritization of risks
- Implementation of measures to mitigate risks
- Measurement and monitoring of performance
- Provisions for adjustments to the program based on performance
- Periodic reporting of certain performance measures to regulators

The new regulations will likely mandate the use of excess flow valves[1] (EFVs) to protect single-family residences served by new or replaced service lines. Questar Gas has previously implemented voluntary installation of EFVs on new ½" and ¾" diameter service lines to single family residences. EFVs have generally proven reliable in this application, are readily available, and can be installed with minimal incremental costs. EFVs are also being voluntarily installed on replacement ½" and ¾" service lines where customer usage requirements are verified as compatible with EFV capacities. The use of EFVs will likely increase maintenance expenses. EFVs are not without operating pitfalls, including false-closure due to expanded customer loads (after original service), excavators damaging and leaving severed lines where the valve has tripped-close (these would normally be detected with a "no gas" service call, or possibly by a "gas leak" call due to the bypassing reset feature), and limiting the rate at which the Company can back-feed supplemental gas through a service line to help maintain system pressure (e.g. in the event of a third-party distribution line tear-out.)

Questar Gas is very concerned about potential federal mandates to install EFVs in other applications, including services to multi-meter buildings and commercial or industrial customers. Questar Gas will monitor proposed rulemaking for potential concerns regarding mandatory EFV installation.

[1] An excess flow valve is a safety device installed in a natural gas service line, normally near the tap to the main, to limit the flow of gas in the event a service line is damaged.

The costs associated with new distribution integrity management rules have not yet been assessed or forecasted. However, it is reasonable to assume that the regulations will necessitate incremental staffing to administer a program, as well as some new costs for data/information management and compliance activities. Ultimately, the analysis and activities under the distribution integrity program will likely result in targeted activities to mitigate risks, including replacement programs when needed.

Excavation Damage Prevention

Third-party excavation damage to natural gas pipelines remains the largest single threat to pipeline safety. The 2002 and 2006 federal pipeline safety acts both included provisions pertaining to excavation damage prevention. The recent nationwide roll-out of the new "811" toll-free number for excavation one-call is a visible example. Most recently, the "Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006" included provisions for states to encourage and enforce more robust state damage prevention programs. In the 2008 Utah legislative session, Questar Gas supported passage of the "Damage to Underground Utility Facilities" act. This act has provisions to increase education and awareness of the need to have underground facilities located before excavation begins. It also increases the maximum fines for violators and transfers jurisdiction for enforcement to the State Attorney General's office.

Questar Gas does not currently anticipate that the enhanced damage prevention program in Utah will result in any significant incremental operating or capital expense. The enhanced program has the potential for reducing costs if fewer excavation damages/tear-outs occur. Questar Gas will continue to monitor trends with excavation damages as the enhanced state damage prevention program is implemented.

Corrosion Control Regulation

PHMSA pipeline safety statistics continue to point to external and internal corrosion as significant threats to pipeline integrity. Consequently, PHMSA continues to pursue its regulatory agenda regarding the corrosion threat. New federal standards on the design and construction of transmission pipelines were promulgated in 2007. *See 49 CFR § 192.476.* To further reduce the risk of internal corrosion in gas transmission pipelines. These new requirements are accounted for in conjunction with the design and construction of new or modified transmission pipelines, as applicable. In general, there will be some incremental capital expenses for liquids collection/removal, gas quality and/or corrosion monitoring devices associated with future feeder line projects. Questar Gas does not have any notable history of internal corrosion problems, but these requirements will likely drive some incremental increases in future capital costs to comply with the new regulation. Other changes (e.g. change in acceptance criteria for adequate cathodic protection) to the corrosion control standards continue to be evaluated and may significantly increase costs if enacted.

Increased Public Education – Pipeline Safety

The "Pipeline Safety Improvement Act of 2002" included requirements for the modification and enhancement of existing public education programs as conducted by natural gas pipeline operators. PHMSA adopted new regulations, s*ee 49 CFR § 192.616,* in 2005 to implement these legislative requirements. Questar Gas has already reviewed and modified its written public education program and commenced related enhancements. These costs are currently reflected in Company operating expenses. Questar Gas has also submitted its written program to a national clearinghouse sponsored by PHMSA, but has not seen any results of the required federal review. It is not currently expected that the federal review will result in any major issues or incremental expenses for additional public education activities beyond the enhancements already made. Further requirements regarding public education programs (including future revisions to the underlying standard, American Petroleum Institute Recommended Practice 1162, "Public Awareness Programs for Pipeline Operators") will continue to be monitored. This is not currently seen as a major new cost driver, but will continue to be monitored as additional requirements are proposed/adopted.

Encroachment Issues

The "Pipeline Safety Improvement Act of 2002" included a requirement to study land use practices, zoning, and resources affected by pipeline ROW and their maintenance. To meet this requirement, PHMSA contracted with the Transportation Research Board (TRB) to conduct the study, culminating in TRB Special Report 281, "Transmission Pipelines and Land Use, A Risk-Informed Approach" (2004.)[2] As a result of the study, PHMSA then formed the Pipelines and Informed Planning Alliance (PIPA) to develop land-use guidance for use by various stakeholders. PHMSA hosted the first meeting of PIPA in January 2008 including the creation of three task teams to address protecting communities, protecting pipelines, and communicating risks/benefits. PHMSA is working through PIPA to engage property developers, home builders, pipeline operators, public interests and government at all levels to assist with development of best practices for property development adjacent to transmission pipelines.

Questar Gas will continue to monitor developments from PIPA and PHMSA regarding land-use planning and encroachment issues. Presently, there have been no new cost drivers identified with this new initiative, but it is discussed here as the potential exists for impacts as this effort moves forward. For example, new inspection methods, inspection frequencies or ROW buffers (note that these are hypothetical examples) could have adverse cost impacts in the future.

In our Utah service territory, active land use development is occurring in the vicinity of Questar Gas ROWs. Unauthorized encroachments on Questar Gas ROWs continue to be monitored for ROW violations, as they create the potential for third-party damage to the pipelines, and can impair the ability of the company to conduct future activities including required inspections, maintenance, repairs and replacements. Questar Gas has established

[2] Referenced document is available on-line at http://onlinepubs.trb.org/onlinepubs/sr/sr281.pdf.

policies on encroachments and high-pressure relocations to assist with managing development and encroachment-related concerns. Questar Gas agrees with the underlying principal involved with the PIPA effort that more can be done. Once the PIPA effort has been completed, it may be advisable to look at the results and seek consensus in Utah on how further changes could be made to state/local practices.

Control-Room Practices

PHMSA has also been mandated under the "Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006" to issue regulations by June 1, 2008 on pipeline control room management. PHMSA has established a Control Room Management team to draft proposed regulations. The regulations are expected to affect various aspects of control room operations for gas distribution and pipeline facilities, including response to abnormal and emergency situations. Currently, Questar Gas does not anticipate any significant impact from the proposed regulations unless the scope is expanded to activities beyond traditional SCADA[3]-type control rooms. Questar Gas will continue to monitor rulemaking developments.

Pipeline Security

Protection of critical infrastructure has been a matter of national priority in the aftermath of the September 11, 2001 terrorist attacks, and continuing intelligence reports of terrorist interest in striking the U.S. homeland. The natural gas industry developed voluntary guidelines on pipeline security in 2002, and the federal government published security guidelines in a September 5, 2002 "Pipeline Security Information Circular." Natural gas pipeline operators, including Questar Gas, were previously required to submit written certification to the U.S. Department of Transportation that they have reviewed the guidance and adopted a corporate security plan. Questar Gas continues to maintain a confidential pipeline security plan that guides its infrastructure security program.

To date, the federal government has pursued a largely voluntary partnership model for infrastructure security. A tremendous amount of effort has gone into the partnership, including the creation of the National Infrastructure Protection Plan (NIPP) and 17 Sector-Specific Plans (SSPs), each led by a governing Sector-Specific Agency (SSA.) Natural gas pipeline systems are covered within the scope of three of the sectors – Energy, Transportation and Chemicals. Sector Coordinating Councils (SCCs) and Government Coordinating Councils (GCCs) have been established to coordinate the voluntary efforts and report on progress made under the NIPP partnership model. Suffice it to say that there is a full array of federal initiatives underway regarding infrastructure security, involving numerous government partners including the Department of Homeland Security (DHS), Department of Energy (DOE), Transportation Security Administration (TSA), Department of Transportation (DOT), and Federal Energy Regulatory Commission (FERC).

Natural gas pipeline operators are thus covered within the scope of multiple SSPs and must coordinate with more than one SSA, as well as other federal and state (e.g Utah

[3] SCADA is an acronym referring to supervisory, control and data acquisition systems.

Department of Public Safety, Division of Homeland Security) agencies involved with security. To date, the federal government has utilized the SCC/GCC model to coordinate the non-regulatory agenda for natural gas pipeline security. The need for coordination between the multiple agencies remains great, and the challenge exists for the federal government to try and rationalize this more complex (multiple agency) oversight structure – i.e. take coordinated rather than independent agency actions affecting pipeline security and the natural gas industry. In any event, Questar Gas is active in participating in the American Gas Association (AGA) security committee. Participation through the industry association gives Questar Gas the needed insights and assistance in dealing with the vast array of federal security initiatives. AGA also facilitates participation in monthly non-classified threat briefings from DHS. Questar Gas is also an active participant in the Homeland Security Information Network (HISN) established by DHS for the oil and natural gas sector to facilitate information sharing with the private sector.

The State of Utah also has an active program for security and energy concerns. Questar Gas continues to support these very important state initiatives, including the 2006 updates made to the "Utah Energy Shortage Contingency Plan." The Division is assigned as the lead agency for electricity and natural gas energy emergencies under this plan. Obviously, such emergencies could result from either natural or intentional (criminal or terrorist) acts.

Of particular note for purposes of the IRP is the regulatory agenda on pipeline security now being contemplated at the national level. Congress has already mandated regulations for the U.S. chemical industry, something that DHS has interpreted as having some application to the natural gas pipeline industry – notably, LNG (liquefied natural gas), propane-air, and natural gas storage systems. Presently, DHS has opted to leave most gas transportation pipelines and pipeline facilities out of the chemical regulations, absent large quantities of stored chemicals as identified in the regulations.[4] None of this has yet been determined to directly apply to the quantities of chemicals stored or transported (including natural gas) by Questar Gas. Questar Gas will continue to monitor these regulatory proceedings for further developments.

The TSA is also contemplating new regulations for the natural gas pipeline industry, including gas distribution operators, as required under the "Implementing Recommendations of the 9/11 Commission Act of 2007" signed into law on August 3, 2007. Under the NIPP, TSA has been assigned as the SSA over the Transportation Sector, inclusive of natural gas pipelines. The recent act requires TSA to visit the critical facilities of the top 100 pipeline operators (encompasses both hazardous liquid and natural gas transmission and distribution operators), and to determine if new security regulations are needed. New federal security regulations, if deemed necessary, would be promulgated after consultation between TSA and PHMSA. In recent discussions with the industry, TSA has been giving clear indications of its intent to proceed forward with new regulations in the future. Obviously, new federal security regulations have the potential to be a new cost-driver for Questar Gas, depending on their scope, nature and complexity. Questar Gas will continue to monitor TSA activities and related regulatory developments.

[4] Refer to 6 CFR Part 27 for additional information on Chemical Facility Anti-Terrorism Standards.

Global climate change/greenhouse gas

Greenhouse gas (ghg) regulations appear to be imminent at the state, regional, and federal level. EPA is in the process of developing a national ghg registry, while "The Climate Registry" has been supported as a voluntary registry by many states. Concurrently, Congress has proposed several bills on climate change. It is likely that a climate bill will pass through Congress in 2009. The natural gas industry's question is, "How and where will the gas be regulated?"

Questar Gas feels that it is positioned to be part of the climate change solution. Natural gas is available right now as a "bridge fuel" as the country transitions to lower emission technologies. In addition, efforts to reduce ghg emissions may be accomplished by adopting conservation/efficiency programs, tighter building codes, and higher efficiency appliance standards. Some of the proposed Congressional bills have suggested the distribution arm of the natural gas industry as the "point of regulation," which would require the utility to develop infrastructure to quantify reductions related to these programs.

Waste management and disposal

Questar Gas is impacted by nearly all new real estate development projects, whether commercial, residential or industrial, in its territory. Since prime available land has already been developed along the Wasatch Front, remaining areas for new construction tend to be "impaired" lands (former Superfund sites, leaking underground storage tank sites, EPA "brownfields" and/or voluntary clean up sites). Similarly, as Questar Gas has the need to upgrade capacity on the system, it is sometimes necessary to remove/install pipe through areas with known and unknown contamination.

Various regulatory entities (state, federal, and local) require that contaminated soils be removed from the site and properly disposed when disturbed. As Questar Gas excavates to install new pipelines, often the soils are required to be disposed at hazardous or regulated / industrial waste landfills, resulting in increased construction and maintenance costs.

Additionally, replacement of aging pipe may result in increased costs due to various requirements for disposing of hazardous materials.