Customer and Gas Demand Forecast

System Total Temperature-Adjusted Dth Sales and Throughput Comparison – 2014 IRP and Actual Results

On a weather-normalized basis, Questar Gas' natural gas sales through the twelve months ending December 2014 totaled 114.6 MMDth. The Company projected a total of 112.2 MMDth in last year's IRP for the same time period. Average usage per system-wide General Service (GS) customer on an annual basis was 111.1 Dth. The 2014 IRP had projected an average of 108.4 Dth. Temperature-adjusted system throughput (sales and transported volumes) was 196.2 MMDth through the twelve months ending December 2014 compared to last year's IRP forecast of 195.0 MMDth for the same period.

Temperature-Adjusted Dth Sales and Throughput Summary – 2015 IRP Year

The 2014-2015 IRP year is projected to finish at 112.7 MMDth of temperature-adjusted system sales demand. The demand for the 2015-2016 IRP year is forecasted to be 113.1 MMDth, and steady growth will lead to demand of 125.2 MMDth for the 2024-2025 IRP year (see Exhibit 3.10). The increase in projected sales is driven by growth in the GS customer class including the addition of customers in the Eagle Mountain service territory.

The 2015-2016 IRP sales forecast of 113.1 MMDth will be the denominator used in the calculation of the percentage of sales supplied by cost-of-service production per the Trail Unit Settlement Stipulation. The numerator will be the actual cost-of-service quantity as reported at the wellhead.

The forecast projects GS customer growth from 994,000 customers in the 2015-2016 IRP year to more than 1.2 million GS customers by the end of the 2024-2025 IRP year (see Exhibit 3.1). The Company projects that the annual Utah GS usage per customer will be 106.9 Dth in the 2015-2016 IRP year and decline to 97.6 Dth by end of the 2024-2025 IRP year (see Exhibit 3.2). Annual Wyoming GS usage per customer is projected to be 134.5 Dth in the 2015-2016 IRP year and decline to 122.0 by the end of the 2024-2025 IRP year (see Exhibit 3.5). Note that the Wyoming average usage figures reflect an updated 10-year period for computing average temperatures and temperature-adjusting usage.

The Company projects annual usage per Utah residential customer to be 80.6 in the 2015-2016 IRP year and decline to 72.42 Dth (see Exhibit 3.3) by the end of the 2024-2025 IRP year. The Company projects the average annual usage per Utah GS commercial customer to be 458.4 Dth in the 2015-2016 IRP year and 437.9 Dth by the end of the 2024-2025 IRP year (see Exhibit 3.4). The Company projects annual usage per Wyoming residential customer to be at 89.6 Dth in the 2014-2015 IRP year and 79.7 Dth by the end of the 2024-2025 IRP year (see Exhibit 3.6). The Company projects annual usage per Wyoming GS commercial customer to be 497.2 Dth in the 2015-2016 IRP year and 462.9 Dth by the end of the 2024-2025 IRP year (see Exhibit 3.7).

The Company expects system throughput in this year's forecast to increase from 198.0 MMDth during the 2015-2016 IRP year to 212.0 MMDth by end of the 2024-2025 IRP year (see Exhibit 3.10).

Residential Usage and Customer Additions

This year the Company expects the rate of customer growth to continue its upward momentum as healthy economics and in-migration lead to increased housing demand. GS demand in both the residential and commercial classes will continue to grow as a result. Additionally, Questar Gas' acquisition of the Eagle Mountain natural gas distribution system resulted in additional customer growth. Non-GS commercial and industrial consumption will continue to grow modestly.

Utah

Utah residential GS customer additions through the twelve months ending December 2014 totaled 14,807. The Company expects about 21,000 additions by the end of the 2014-2015 IRP year. This total includes the addition of nearly 6,500 new customers from the Eagle Mountain system acquisition in February of 2015. Additions of over 15,000 through that time period outside of Eagle Mountain are indicative of the continuing increase in residential construction throughout the service territory. Expectations of increased housing demand lead to a forecast of 17,000 residential additions in IRP-year 2015-2016 and 19,500 in IRP-year 2016-2017.

Actual temperature-adjusted residential usage per customer for the twelve months ending December 2014 was 83.47 Dth. The Company projects an average of 82 Dth by the end of the 2014-2015 IRP year and 80.64 for IRP-year 2015-2016. The overall downward trend in average consumption is expected to continue through IRP-year 2024-2025 as the pace of new dwelling construction increases and energy efficiency programs continue to incentivize greater efficiency (see Exhibit 3.3).

The Company uses both statistical and deterministic end-use modeling approaches to analyze and forecast residential gas demand. The end-use model estimates consumption for space heating, water heating, and other gas appliance use based on appliance efficiency and housing characteristics. The model incorporates estimates of housing characteristics, natural gas appliance saturation by efficiency rating throughout the residential customer base, customer growth projections, and projected changes in economic variables that affect use per customer such as the average residential gas bill and household income. The model also addressed the effects on use per customer from the Company's energy-efficiency programs based on past and projected participation. The Company also employs statistical time series analysis, both univariate and multivariate, to estimate systematic variation of demand over time based on history and to the effects of commodity price and long-term trend on residential demand. The

Company uses Microsoft Excel 2010 to conduct the end-use modeling, and SAS Enterprise Time Series 13.1 for the statistical time series modeling.

Wyoming

In Wyoming 149 residential GS customers were added through the twelve months ending December 2014, reflecting a slowdown in housing construction in the service area through the spring and summer months of 2014. The Company expects an increase in housing demand in the service area and forecasts about 264 additions in IRP-year 2015-2016 and 289 in IRP-year 2016-2017.

The average annual usage per residential customer in Wyoming was 93.28 Dth in calendar year 2014 when adjusted to the new normal baseline. As in Utah, the Company expects a general trend toward greater home and appliance efficiency. Participation in the energy efficiency programs perpetuates the general long-term decline in usage per customer through the forecast period. Average usage of 91.76 Dth is expected by the end of the 2014-2015 IRP year. The Company projected average usage of 89.61 Dth in IRP-year 2015-2016 and expects it to continue to decline through IRP-year 2024-2025 (see Exhibit 3.6).

Small Commercial Usage and Customer Additions

Utah

Temperature-adjusted Utah GS commercial usage per customer for the twelve months ended December 2014 was 470.05 Dth. This year's forecast reflects a continuation of a general downward trend with an average of 461.8 Dth by the end of IRP-year 2014-2015 and 458.4 in IRP-year 2015-2016 (see Exhibit 3.4).

Utah GS commercial customer additions are projected to increase along with the residential level. The Company forecasts approximately 1,300 additions through IRP-year 2015-2016 and about 1,400 in IRP-year 2016-2017.

Wyoming

Usage for commercial GS customers in Wyoming for the twelve months ended December 2014 was 500.2 Dth when adjusted to the new normal baseline. The Company projects an average of 500.1 by the end of the 2014-2015 IRP year and 497.2 during the 2015-2016 IRP year. The average is expected to continue its general decline through the forecast period.

The forecast projects about 30 additions in IRP-year 2015-2016, and about the same amount in IRP-year 2016-2017. As with Utah, these projections are driven primarily by an increase in residential customers.

Large Commercial, Industrial and Electric Generation Gas Demand

As shown in Exhibit 3.8, annual gas demand among large commercial and industrial customers is steady with a gradual increase. The Company expects demand to grow from 47.6 MMDth in IRP-year 2015-2016 to 50 MMDth in IRP-year 2024-2025.

Annual demand among electric generation customers increased substantially in 2014 with the completion of the Lake Side power plant extension. The forecast projects a leveling off of electric generation demand at about 43 MMDth per year beginning in the 2014-2015 IRP year.

Firm Customer Design-Day Gas Demand

The design-day peak demand forecast is based on a one-in-twenty year (five occurrences in 100 years) weather event. More specifically, the design-day firm customer peak demand projection is based on a theoretical day when the mean temperature is –5 degrees Fahrenheit at the Salt Lake Airport weather station and corresponding design-day temperatures are seen coincidentally across the Company's service territory.

Wind speed, temperature and prior-day demand are significant factors in the prediction of daily gas sendout during the winter heating season. Note that the design-day demand projection distinguishes between firm sales and firm transportation demand for gas supply and system capacity planning purposes.

As shown in Exhibit 3.9, the firm sales and firm transportation for the heating seasons of 2010-2011 through 2014-2015 show firm send out volumes for the coldest day in each season. Design-day conditions did not occur during those time periods. The firm sales design-day gas supply projection for the 2015-2016 heating season is 1.306 MMDth and grows to 1.449 MMDth in the winter of 2024-2025.

Periods of Interruption

The Company estimates that under peak conditions 54,300 Dth could be curtailed across the system (50,000 Dth of interruptible transportation and 4,300 Dth of interruptible sales).

Questar Gas' Utah Natural Gas Tariff No. 400 (Tariff) states, "At times there may be a need for interruption on an isolated portion of the Company's system." In 2009, the Company performed an analysis to determine if isolation of certain system segments could alleviate pressure concerns while limiting the impact on customers that are neither affected by nor can affect pressures on that segment. The Company determined that it could effectively manage interruptions through Interruption Zones, which are updated on an annual basis.

The Company is continually working to improve its interruption processes to ensure the reliability of service while also limiting the impact upon interruptible customers. These efforts included making changes to the process that allowed the Company to effectively manage a curtailment on December 31, 2014.

Source Data

Where available, the Company has obtained economic, demographic and other data from state and local sources such as the University of Utah (Bureau of Economic and Business Research) and the Utah Governor's Office of Planning and Budget. When current local data were not available, the Company used nationally recognized sources such as the U.S. Energy Information Administration, the U.S. Census Bureau, IHS Global Insight and Moody's Analytics.

The Utah and Wyoming Economic Outlook

Table 3.1 and Table 3.2 below show the recent history and the current economic outlook for Utah and Wyoming:

Table 3.1: Summary of Utah Economy
Annual Percentage Change

Description	2009 – 2014	2014 - 2015	2014 - 2019	2014 – 2022
Population	1.6%	1.5%	1.8%	1.8%
Personal Income	4.7%	5.0%	6.0%	5.9%
Construction Employment	2.1%	12.1%	9.7%	7.8%
Manufacturing Employment	1.3%	2.9%	1.4%	0.9%
Non-Manufacturing Employment	2.3%	3.9%	2.7%	2.6%
Total Employment	2.2%	3.8%	2.6%	2.4%
Average Housing Starts	12,097	17,730	21,541	23,173

Source: Spring 2015 Long-term Forecasts by IHS Global Insight

Table 3.2: Summary of Wyoming Economy
Annual Percentage Change

Description	2009 – 2014	2014 - 2015	2014 - 2019	2014 – 2022
Population	0.9%	0.6%	0.6%	0.6%
Personal Income	5.6%	1.9%	4.3%	4.4%
Construction Employment	-0.3%	1.1%	3.2%	2.3%
Manufacturing Employment	1.7%	0.4%	0.4%	0.3%
Non-Manufacturing Employment	0.5%	1.0%	1.0%	1.0%
Total Employment	0.5%	1.0%	1.0%	1.0%
Average Housing Starts	2,059	1,785	2,000	2,047

Source: Spring 2015 Long-term Forecasts by IHS Global Insight

The U.S. Economic Outlook

Table 3.3 is a review of recent history and Table 3.4 shows the consensus economic outlook:

Table 3.3: **U.S. MACROECONOMIC FORECAST**
Source: IHS GLOBAL INSIGHT Review of the U.S. Economy – April 2015

							Forecast
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Real Gross Domestic Product 1/	-2.8	2.5	1.6	2.3	2.2	2.4	2.8
GDP Price Index - Chain Wt. 1/	0.8	1.2	2.1	1.8	1.5	1.5	1.2
CPIU 1/	-0.3	1.6	3.1	2.1	1.5	1.6	-0.4
Real Disposable Income 1/	-0.4	1.0	2.5	3.0	-0.2	2.5	3.5
Pre-tax Profits 1/	8.7	25.0	4.0	11.4	4.2	-0.8	8.0
Unemployment Rate 3/	9.3	9.6	8.9	8.1	7.4	6.2	5.5
Housing Starts 4/	0.6	0.6	0.6	0.8	0.9	1.0	1.1
3-month Treasury Bills 3/	0.2	0.1	0.1	0.1	0.1	0.0	0.2
30-Year Fixed Mortgage Rate 3/	5.0	4.7	4.5	3.7	4.0	4.2	3.9
Trade Balance 2/	-381	-444	-459	-461	-400	-411	-345
Vehicle Sales – Total 4/	10.4	11.6	12.7	14.4	15.5	16.4	16.9
Real Non-Res Fixed Investment 1/	-15.6	2.5	7.7	7.2	3.0	6.3	4.2
Industrial Production 1/	-11.3	5.7	3.3	3.8	2.9	4.2	1.9

1/ Annual Rate of Change (Percent)
2/ Billions of 1996 chained dollars
3/ Percent
4/ Million Units

Table 3.4: Long-term U.S. Economic Outlook Source: IHS GLOBAL INSIGHT Review of the U.S. Economy – April 2015	2016	2017	2018	2019	2020	2021	2022
Real Gross Domestic Product 1/	2.7	2.7	2.4	2.7	2.8	2.5	2.2
GDP Price Index - Chain Wt. 1/	1.9	1.9	1.9	1.9	1.9	1.9	2.1
CPIU 1/	2.1	2.4	2.6	2.5	1.8	2.1	2.5
Real Disposable Income 1/	2.4	3.4	3.0	3.1	3.2	2.4	2.2
Pre-tax Profits 1/	6.5	-0.7	0.8	3.8	3.7	4.2	4.5
Unemployment Rate 3/	5.2	5.2	5.3	5.2	5.1	5.0	5.0
Housing Starts 4/	1.3	1.5	1.5	1.6	1.6	1.6	1.6
3-month Treasury Bills 3/	1.2	2.8	3.5	3.5	3.5	3.5	3.5
30-Year Fixed Mortgage Rate 3/	4.7	5.5	5.9	5.9	5.9	5.9	5.9
Trade Balance 2/	-390	-481	-542	-541	-494	-487	-511
Vehicle Sales - Total 4/	17.2	17.7	17.5	17.3	17.1	17.0	17.0
Real Non-Res Fixed Investment 1/	6.1	5.6	4.7	4.4	4.3	3.4	3.1
Industrial Production 1/	2.9	3.1	2.8	3.0	3.0	2.5	2.3

1/ Annual Rate of Change (Percent)
2/ Billions of 1996 chained dollars
3/ Percent
4/ Million Units

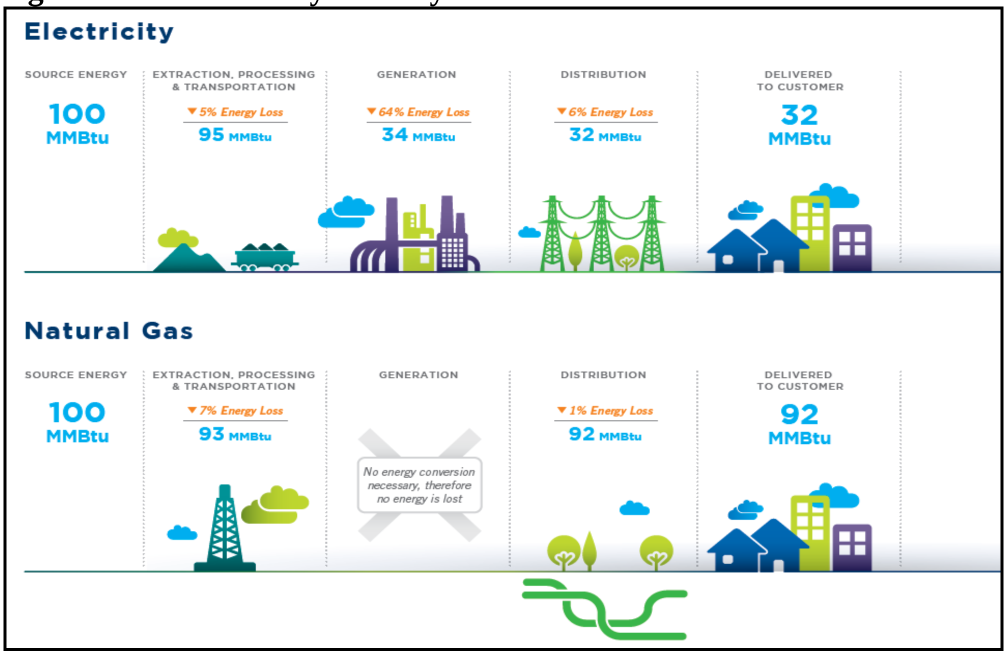
Alternatives to Natural Gas

Questar Gas customers have alternatives to using natural gas for virtually every application. Some energy applications are dominated by another fuel (cooking, clothes drying) while others are dominated by natural gas (space and water heat). A material shift in customer preference would affect future demand and load profiles. While considering alternatives one must consider full fuel-cycle efficiency.

Full Fuel-Cycle Efficiency

Natural gas remains the most efficient and least expensive form of energy for use in space heating, water heating, cooking and clothes drying applications. This is particularly evident when natural gas is compared to electricity through a full fuel-cycle analysis. Full fuel-cycle analysis looks at the journey of different forms of energy, and their associated losses, from the point of production to the point at which the energy is received by the customer. Figure 3.1 shows that for each 100 MMBtu of natural gas extracted, 92 MMBtu are delivered to the customer for direct use. Conversely, for each 100 MMBtu of other energy sources extracted for conversion to electricity, 32 MMBtu are ultimately delivered to the customer for direct use. In other words, converting any fuel source into electricity to power comparable electric end-use products only maintains 32% of usable energy.

Figure 3.1 – Full fuel-cycle analysis



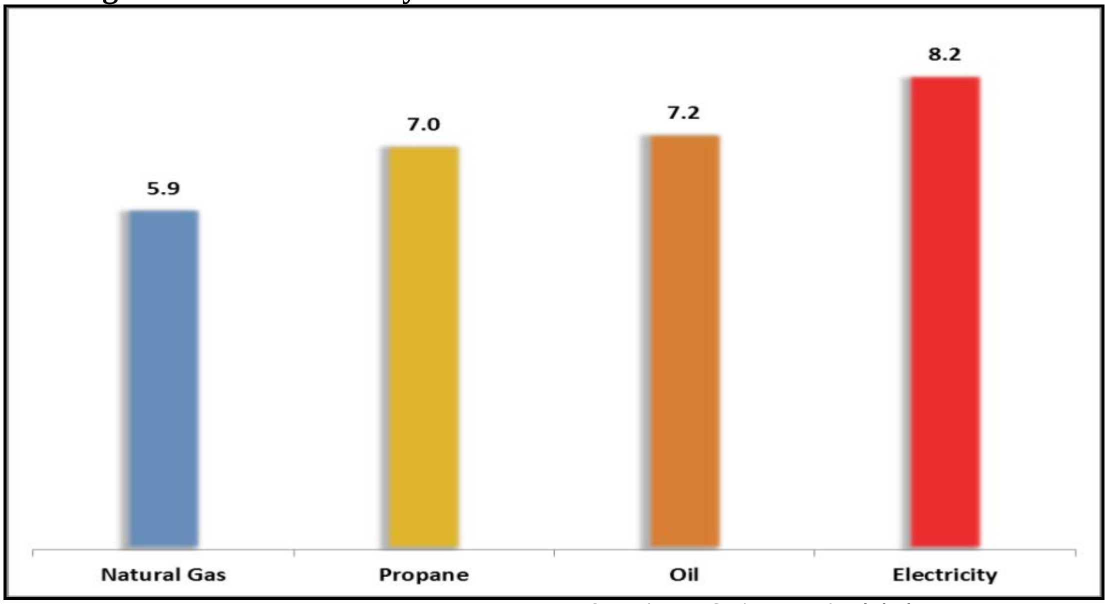
Source: American Gas Association 2014 Playbook

A recent American Gas Association (AGA) study focused on the cost-to-operate differential between natural gas and electric appliances. The study used 2014 average utility rates and compared natural gas and electric water heaters of similar efficiency and size. The findings of the study show that a .62 energy factor (EF) natural gas water heater is nearly $300 cheaper to operate annually than an electric storage water heater ranging between .945 and .951 EF. Additionally, the study found that the direct use of natural gas in typical home appliances resulted in 28% less energy consumption than a similar home with all electric appliances.

The lower energy consumption and fuel-cycle efficiency of natural gas not only equate to lower customer bills but also significantly lower greenhouse gas emissions.

Figure 3.2 shows the full fuel-cycle greenhouse gas emissions (in metric tons) of a typical U.S. household generated from various forms of energy.

Figure 3.2 – Full Fuel-Cycle Greenhouse Gas Emissions



Source: American Gas Association 2014 Playbook

Solar

Although solar penetration is a significant issue for electric utilities, Questar Gas does not currently anticipate that solar space or water heat will have a significant impact in the Company's natural gas service territory. The Company will continue to monitor this issue and participate in studies with the Gas Technology Institute (GTI) and others and will report any impacts on the service territory in future IRPs.

Air-Source Heat Pumps

Air-source heat pumps are becoming more competitive. There are significant risks to the Company and its customers if these devices proliferate. The loads placed on the system will be substantially lower than a similar customer with conventional natural gas space and water heat, yet the investment to serve the customer will not decrease. Most air-source heat pumps require a back-up heat source for those times when the outside air temperature is too low for the heat pump to meet the load. Since natural gas is the most economic heat source the Company anticipates that natural gas will be selected by most consumers for this back-up role.

The first risk arises because these customers will increase the peak demand on the system. This risk is especially troubling because it will be very difficult to estimate the additional peak requirement created by these customers. There are only a handful of days each winter when temperatures are too low for these units to operate efficiently. As a result the potential for peak load attributable to these units will not be evident in the load data used to predict peak requirements.

The second risk is more significant for firm sales customers. The cost to serve customers with air-source heat pumps is essentially identical to the cost to serve a similarly situated traditional customer. With the current rate design, the Company will only recover a portion of the cost to serve from air-source heat pump customers. The direct effect of this under collection will be that other customers will be required to make up the difference. This may lead to a material cross subsidy between traditional customers and the air-source heat pump customers. The Company is monitoring the penetration of air-source heat pumps.

Ground-Source Heat Pumps

While ground-source heat pumps may have similar risks to the air-source heat pumps, the potential for significant penetration is very low. There is a large capital investment required for these installations. Only commercial customers with adequate acreage have begun adopting this technology. The decision to install ground-source heat pump technology appears to be driven by considerations beyond pure economics.

Lost and Unaccounted For Gas

The Company calculates the portion of gas that is lost or unaccounted for using a moving three-year average of annual proportions that it derives by dividing the total of system receipts for the twelve-month period ending June 30 into the sum of Company use gas (accounts 810 and 812), loss from tear-outs, and volumes that are unaccounted for during the same period. The updated average is 0.54% and reflects meter-level compensation for temperature and elevation in the Utah service territory that began in August of 2010 and in the Wyoming service territory in October of 2012.

The current calculation for the most recent 3 years is included in Table 3.5.

Table 3.5 Questar Gas Estimated Use and Lost and Unaccounted for Gas Calculation

Three Year Rolling Average

Year	QGC Customer Sales	QGC Customer Transport.	Total Receipts	QGC Sales & Transportation	QGC Use Acct. 810&812	QGC Loss Due To Tearouts	QGC Lost & Unaccounted For Gas	Total Sales, Transport, Company Usage and L&U
2011-2012	107,765,322	57,613,566	165,378,888	164,193,992	188,196	23,351	973,349	165,378,888
2012-2013	112,150,529	61,127,867	173,278,396	172,597,050	233,285	23,882	424,178	173,278,396
2013-2014	110,269,241	75,077,263	185,346,504	184,385,320	231,141	18,561	711,482	185,346,504
Total	330,185,092	193,818,696	524,003,788	521,176,362	652,622	65,794	2,109,010	524,003,788

Lost-&-Unaccounted-For-Gas % 0.402% Company Use and Lost-&-Unaccounted-For-Gas % 0.540%

Questar Gas took the following steps to minimize the volume of lost or unaccounted for gas:

- **Temperature and Elevation Compensation**. In August of 2010 the Company began compensating for meter-level temperature and elevation in the computation of Dth in its Utah Service Territory, in accordance with the Utah Commission's orders. It made the same change in the Wyoming service territory in October of 2012. As a result, the volume of lost and unaccounted for gas is lower.

- **Maintenance work on high pressure feeder lines.** When scheduled maintenance work requires the Company to blow down the feeder line, the Company allows the line to feed down to the lowest possible pressure before completely blowing it down. This minimizes the amount of gas that is blown down to the atmosphere. The Company records the pressure in order to calculate the amount of gas that it blows down.
- **Feeder line replacement project.** The feeder line replacement project replaces aging infrastructure to ensure the safety and reliability of the distribution system.
- **Hot tapping.** The Company utilizes hot taps when making branch connections on the feeder line system to eliminate the need to blow down sections of the feeder line. The hot tapping process allows this work to be completed while the line remains in service.
- **Excess flow valves.** The Company installs an excess flow valve on any new or replaced service line delivering up to 5,000 cubic feet per hour. The excess flow valve is designed to limit the amount of gas lost in the event of the service line being severed (i.e. third party damage).
- **Leak survey and repair.** The Company regularly conducts leak surveys and performs system maintenance as required. The Company conducts additional leak surveys in Class 3 and Class 4 locations.
- **Response time to leak calls.** The Company continues to evaluate ways to reduce the response time to gas leak calls through efficiencies in how employees are dispatched to these gas leaks. The Company has implemented a Global Positioning System (GPS) to allow dispatchers the ability to dispatch personnel based on their geographic location with respect to the leak.
- **Leak detection equipment.** The Company utilizes advanced technologies for locating and identifying leaks. Examples include the remote methane leak detection (RMLD) and the Rover gas detector.
- **Research and Development.** The Company participated in a GTI study to identify factors for fugitive emissions from various types of facilities.
- **Innovative Design Methods at a Compressor Station.** Compressor station design includes the ability to feed the distribution system rather than blowing down the station piping.

Forecast Exhibits

The following charts summarize the 10-year customer and gas demand forecast. All charts contain temperature-adjusted data with forecast horizons summarized on an IRP-year basis. Also, new this year, the Company has summarized forecasted data in IRP years (June 1 – May 31).