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April 16, 2020

Ms. Melanie Sandoval
New Mexico Public Regulation Commission
P. O. Box 1269
1120 Paseo de Peralta
Santa Fe, New Mexico 87504-1269

Subject: New Mexico Gas Company, Inc.'s Integrated Resource Plan for the Planning Period of 2020 through 2030 in Compliance with 17.7.4.9 NMAC

Dear Ms. Sandoval:

Pursuant to the New Mexico Public Regulation Commission's Temporary Electronic Filing Policy, issued on March 20, 2020, that suspended the submission of paper copies and implemented the process for electronic filings in response to the Governor's Declaration of a Public Health Emergency, enclosed is New Mexico Gas Company Inc.'s Natural Gas Integrated Resource Plan ("IRP") for the period of 2020 through 2030. This compliance filing is pursuant to Section 9 of 17.7.4, which requires that public utilities supplying natural gas service to customers shall file an IRP every four years.

NMGC has posted a copy of its IRP to its website at https://www.nmgco.com/en/regulatory_filings,

If you have any questions, please contact me at (505) 697-3832.

Sincerely,

/s/ Rebecca Carter

Rebecca Carter
Manager, Regulatory Affairs

cc: Tim Martinez – NMPRC
Raj Solomon – NMPRC
Brad Borman – NMPRC



New Mexico
GAS COMPANY®
AN EMERA COMPANY

2020 Integrated Resource Plan



Planning Period - 2020 - 2030

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SAFE HARBOR STATEMENT

This document contains forward-looking statements. Such statements are subject to a variety of risks, uncertainties and other factors, most of which are beyond New Mexico Gas Company, Inc.'s (NMGC or the Company) control, and many of which could have a significant impact on the Company's operations, results of operations, and financial condition, and could cause actual results to differ materially from those anticipated.

The information in this document is based on the best available information at the time of preparation. The Company undertakes no obligation to update any forward-looking statement or statements to reflect events or circumstances that occur after the date on which such statement is made or to reflect the occurrence of unanticipated events, except to the extent the events or circumstances constitute material changes in the Integrated Resource Plan (IRP) that are required to be reported to the New Mexico Public Regulation Commission (NMPRC or Commission) pursuant to Rule 17.7.4 New Mexico Administrative Code (NMAC).

IRP REGULATORY REQUIREMENTS

In accordance with Rule 17.7.4 NMAC IRP for Gas Utilities (IRP Rule), NMGC has established a process to analyze and determine the most cost-effective portfolio of resources to supply the natural gas needs of its customers for the planning period of 2020-2030. According to the requirements of the rule, this IRP contains the following specifics related to NMGC's resource plan:

- Current load forecast
- Description of existing portfolio of resources
- Summary of foreseeable resource needs for the planning period
- Anticipated resources to be added during the planning period and the evaluation of various options that could reasonably be added to the utility's resource portfolio
- A summary description of natural gas supply sources and delivery systems
- A summary identification of critical facilities susceptible to supply-source or other failures
- Description of the public advisory process
- Other information that may aid the Commission in reviewing the utility's planning processes

PUBLIC ADVISORY PROCESS

Pursuant to 17.7.4.12 NMAC, NMGC initiated its Public Advisory process one year prior to the filing date of April 16, 2020 by providing notice to the Commission, intervenors in our most recent rate case, and participants in the most recent Energy Efficiency and IRP proceedings, 30 days prior to the Company's first IRP public advisory meeting. Throughout the development of the IRP, NMGC held Public Advisory meetings to facilitate stakeholder and public participation and input. Participating stakeholders included representatives of the NMPRC Utility Staff, the Attorney General's Office, and individual NMGC customers.

Announcement of Public Advisory Meetings

In advance of each of the scheduled Public Advisory meetings, NMGC printed and published notices of the meetings in various publications to promote awareness and encourage participation. These publications included local newspapers that are circulated in every county that NMGC provides natural gas utility service, customer bills, NMGC's website and NMGC's Facebook, Twitter and LinkedIn social media platforms.

IRP Public Advisory Meeting Topics

In each of the meetings held across the state, a presentation was given that addressed the items required by the IRP Rule. This information included design day load, NMGC's gas supply strategies and potential additional resources. Also, a description of NMGC's critical infrastructure was given, as well as information on future gas prices, and the Company's Energy Efficiency Program was reviewed.

Internet Posting of Information

As mentioned, NMGC established an internet posting of all the IRP information. The website includes a general description of the IRP process, meeting invitations and presentation materials, as well as a link to the NMPRC Rules, including the Gas IRP rule.

The IRP information can be found here: https://www.nmgco.com/en/regulatory_filings.

Coordination of IRP Process with Energy Efficiency Programs

The Public Advisory group meetings relating to NMGC's 2019 and 2020 Energy Efficiency Program were coordinated with the IRP Public Advisory meetings.

NEW MEXICO GAS COMPANY'S SYSTEM OVERVIEW

NMGC's service territory is throughout the state of New Mexico serving approximately 530,000 meters in 26 of New Mexico's 33 counties. NMGC owns, operates, and maintains approximately 12,200 miles of transmission and distribution pipeline throughout the state. For planning purposes NMGC divides its service area into the Northwest (NW) system, the Southeast (SE) system, and the Independent systems.

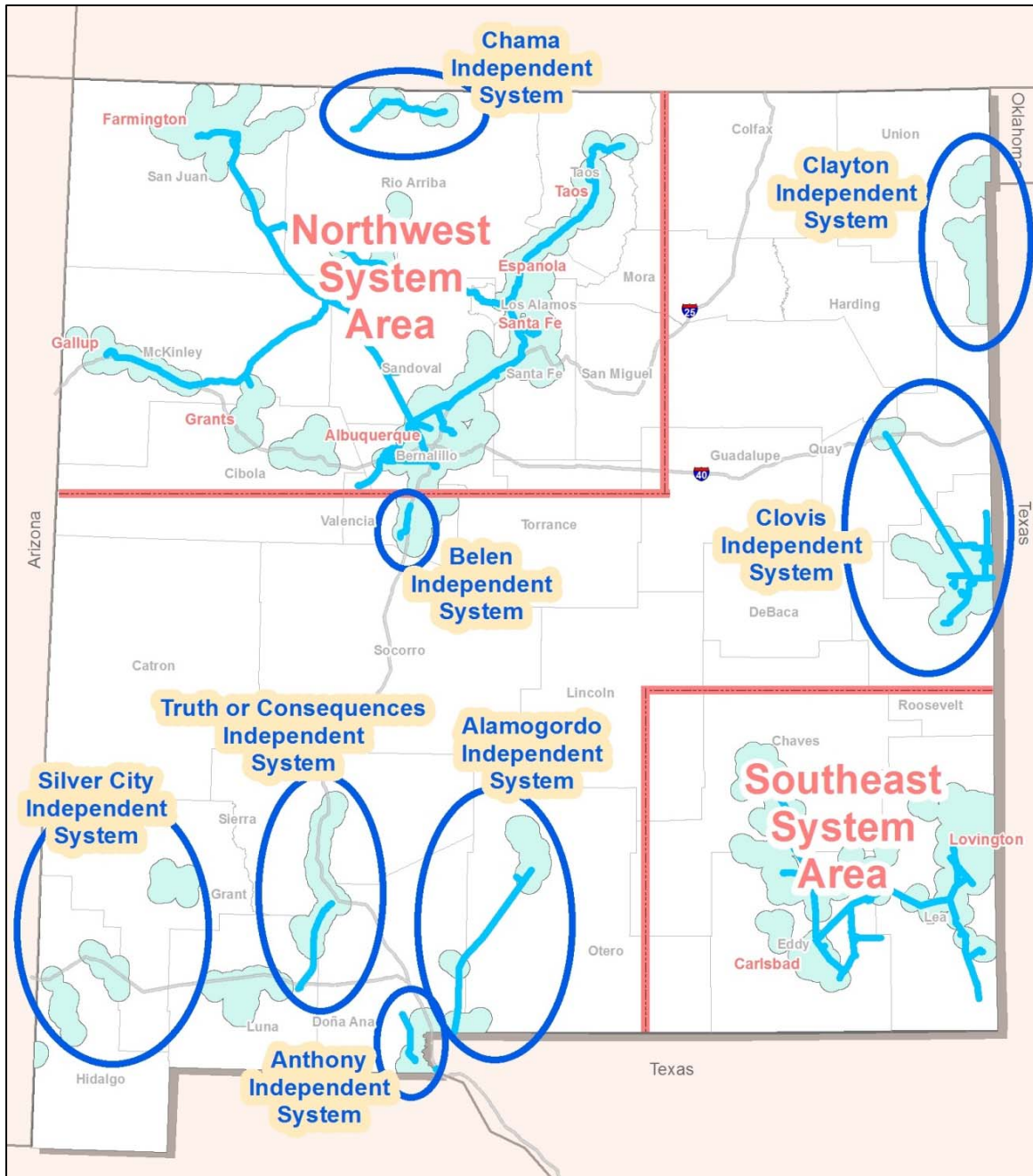


Figure 1 – NMGC's NW, SE, and Independent Systems

Northwest System

The NW system, which covers most of northern New Mexico, is made up by the following major service areas: the Albuquerque area, the Santa Fe/Los Alamos area, the Española/Taos/Red River area, the Gallup-Grants area, and the Farmington area. The NW system is NMGC's largest system in both infrastructure and customers. This system accounts for 69% of the total transmission and distribution pipeline mileage and 79% of the total NMGC customers. Natural gas is delivered into the NW system from interstate pipelines, processing plant tailgates, and the Blanco Hub through the gas receipt points depicted in the following figure.

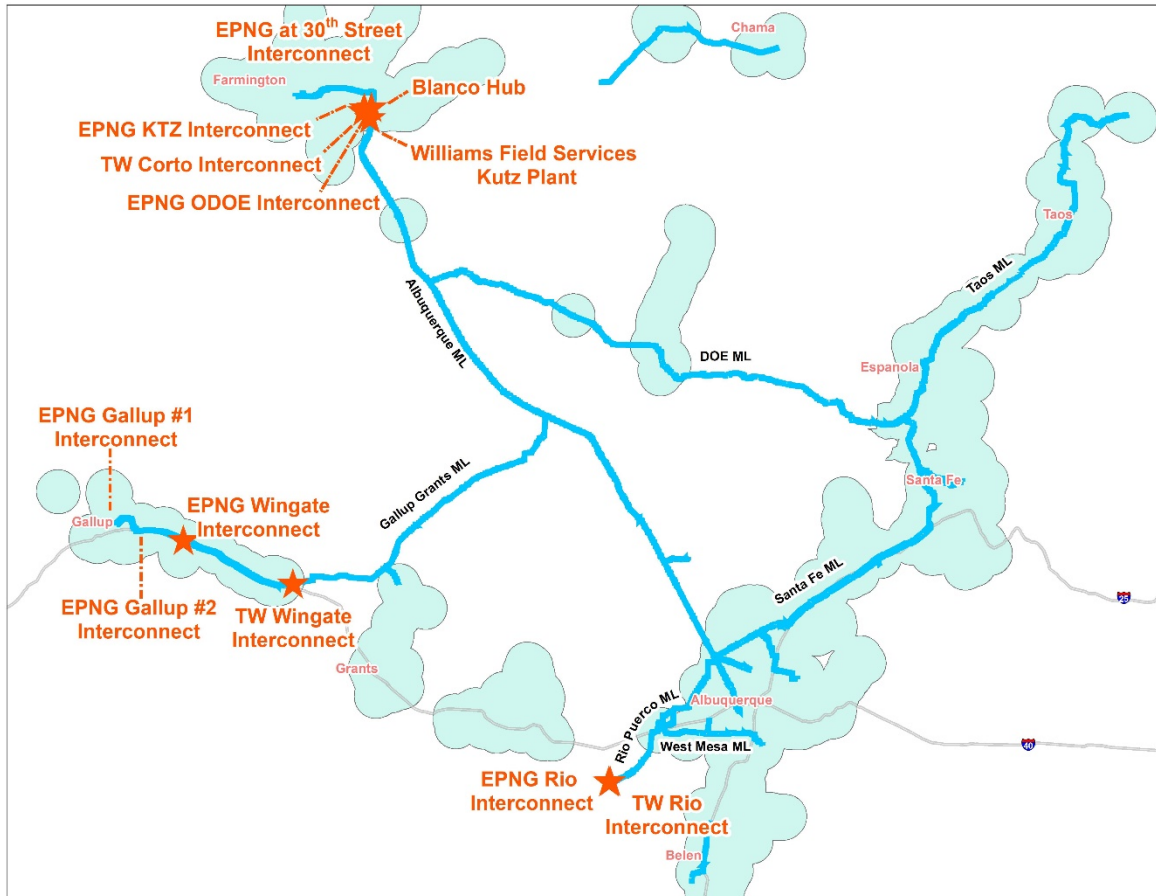


Figure 2 – NW System and Supply Points

Demand Area Descriptions

Albuquerque Area

The Albuquerque area is comprised of Albuquerque, Rio Rancho, Bernalillo, and the East Mountains. This is NMGC's largest customer base amounting to 55% of total customers served by NMGC. Major NMGC transmission pipelines that deliver gas to the Albuquerque area are described in the table below. Gas is supplied to these pipelines through numerous supply points in the Farmington area (see Farmington area description) and the Transwestern (TW) and El Paso Natural Gas (EPNG) interconnects shown in the map below.

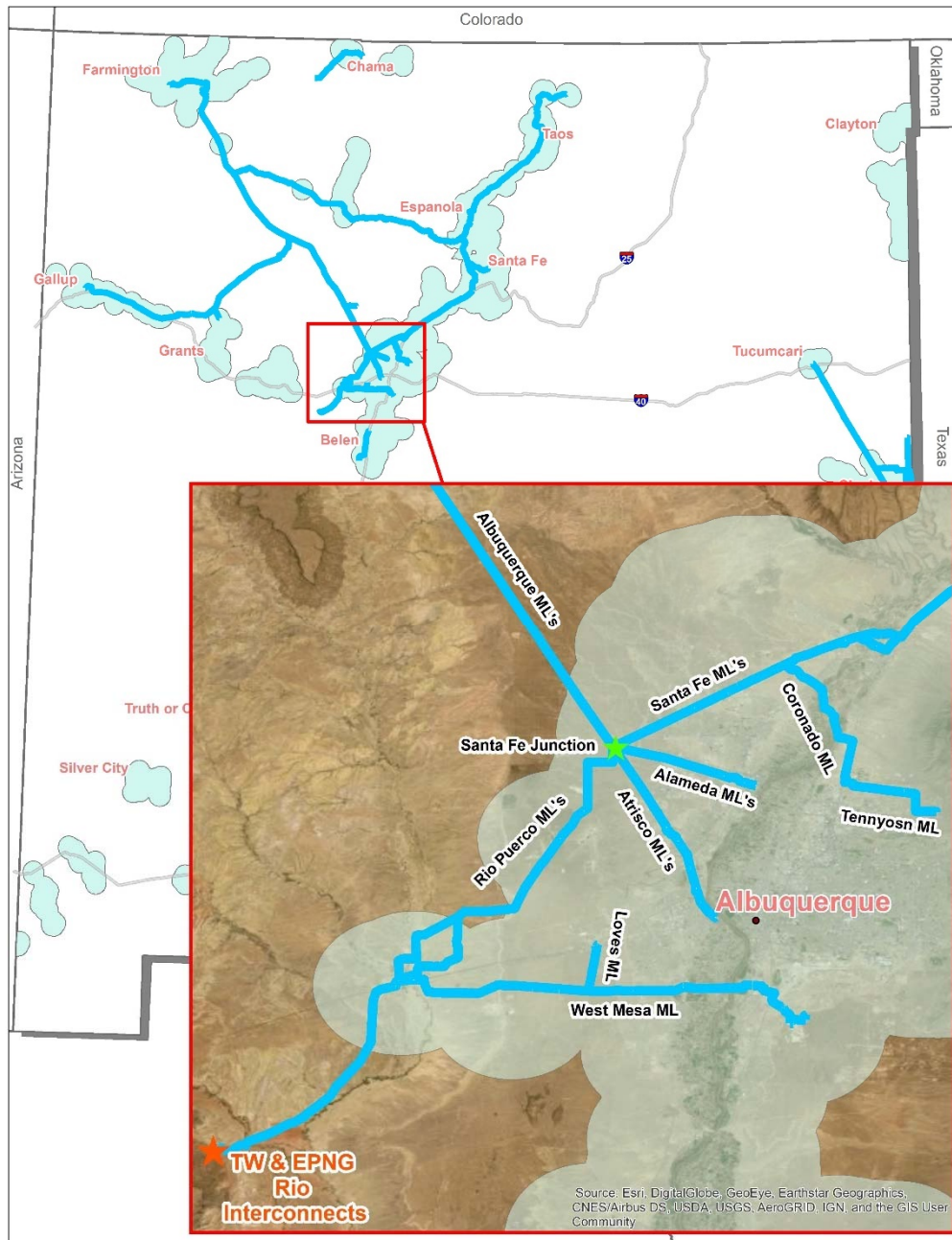


Figure 3 – Overview of Albuquerque Pipelines and Area

Pipeline Name	Length (miles)	Diameter (inches)	Maximum Allowable Operating Pressure (psig)
Corto ML (not pictured)	2.1	12	800
ODOE ML (not pictured)	2.1	12	800
Albuquerque ML Low Pressure	125	16-20	550 – 600
Albuquerque ML High Pressure	130	20-24	600 – 1,003
Albuquerque ML Section #3	13.5	18 and 20	550
Rio Puerco ML	35.5	16	913
Rio Puerco ML	35.5	24	913
West Mesa ML	4	16	895
West Mesa ML	14.7	20	913
Atrisco ML	11.5	12	400
Loves ML	3	6	932
Atrisco ML	11.5	20	400
Alameda ML	7.2	16	466
Alameda ML	7.2	16 and 20	466
Santa Fe ML	15.5	12 and 16	600
Coronado ML	9	16	600
Tennyson ML	5.5	10	600
Mesa Del Sol ML	4.1	2-10	500

Gallup-Grants Area

The Gallup-Grants area includes the towns of Gallup and Grants and smaller communities in the area. This area comprises 3% of NMGC’s customers. The major NMGC gas transmission pipeline in the area is the Gallup-Grants mainline, which is supplied from the Albuquerque mainlines and interconnects shown in the map below.

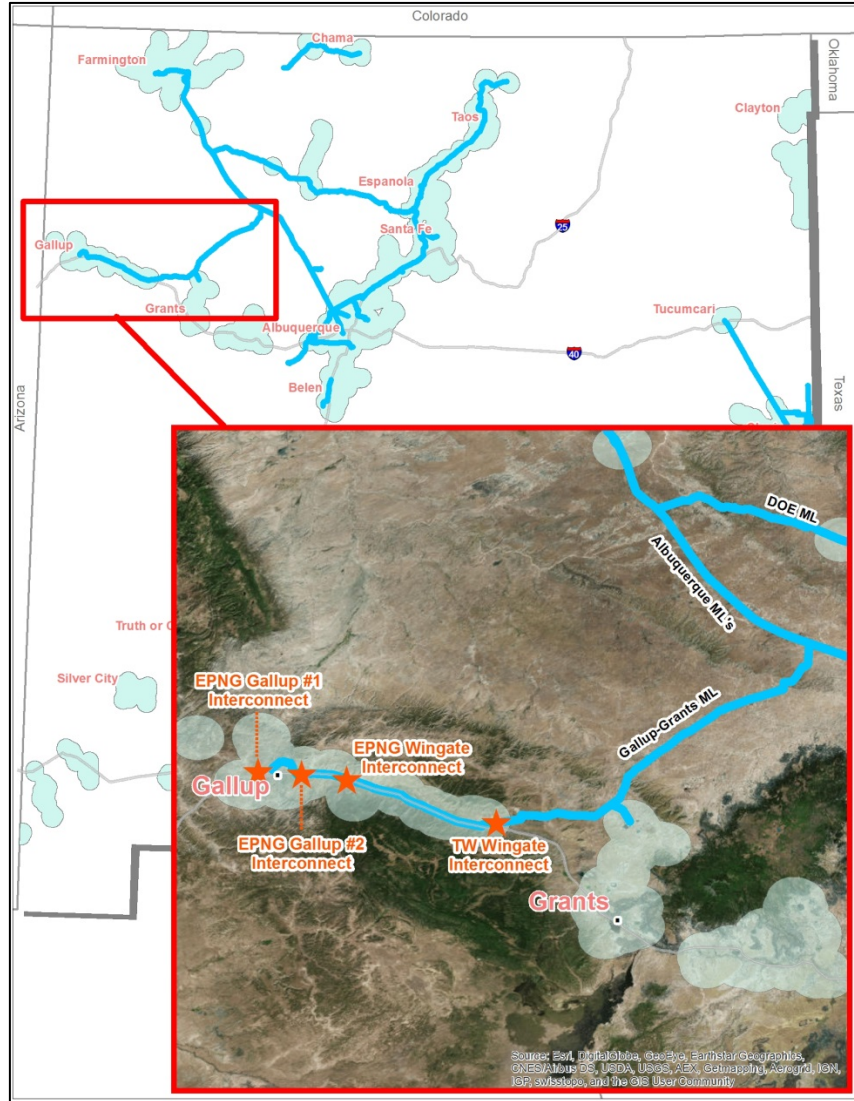


Figure 4 – Overview of Gallup-Grants Pipeline and Area

Pipeline Name	Length (miles)	Diameter (inches)	Maximum Allowable Operating Pressure (psig)
Gallup-Grants ML	106	6 & 8	720
Albuquerque ML's	See the Albuquerque Area section		

Farmington Area

The Farmington area includes the towns of Farmington and Bloomfield as well as other smaller communities in the area. This area comprises 6% of NMGC’s customer base. The pipelines that serve this area include Crouch Mesa, Bluffview, and Farmington mainlines, which are supplied by the interconnects and processing plant tailgates shown in the map below.

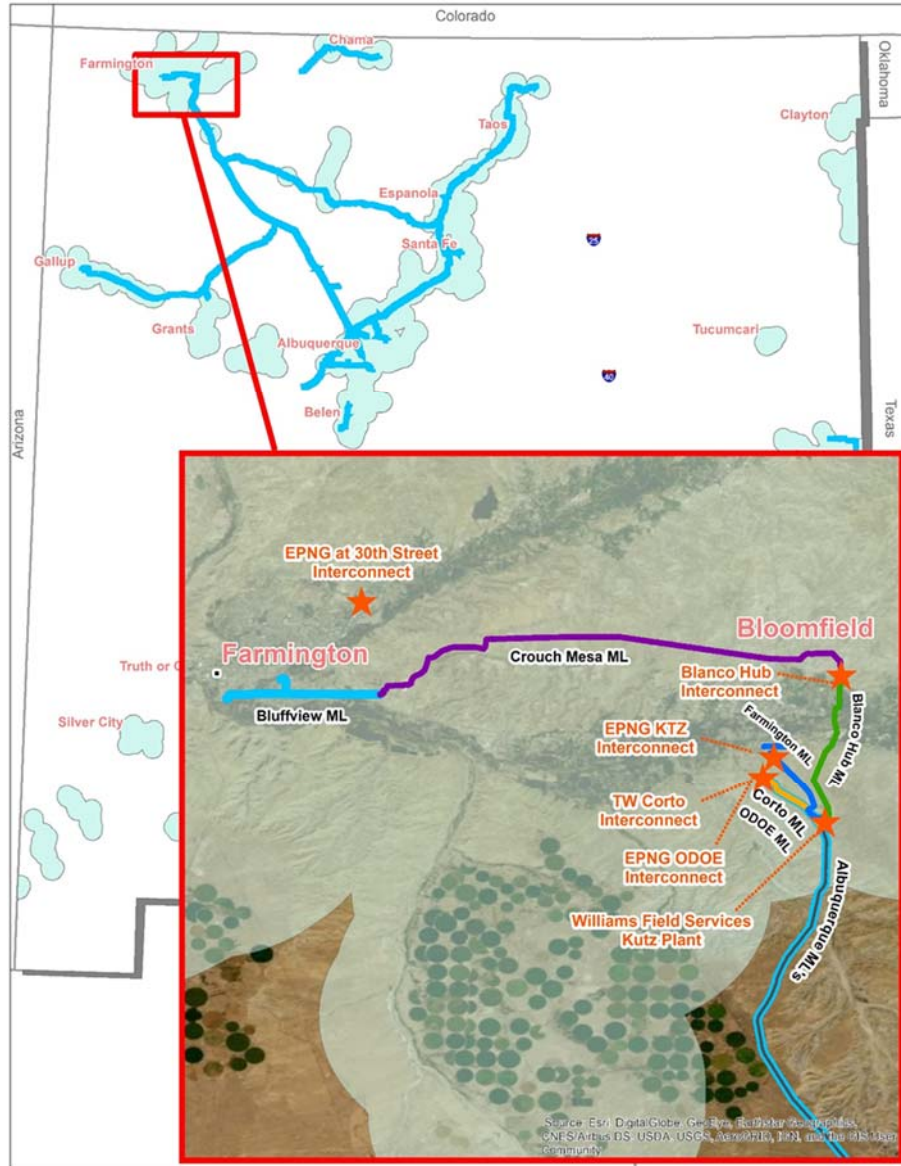


Figure 5 – Overview of Farmington Pipelines and Area

Pipeline Name	Length (miles)	Diameter (inches)	Maximum Allowable Operating Pressure (psig)
Crouch Mesa ML	12.7	12	1,220
Bluffview ML	4.5	6 and 8	1,220
Farmington ML	4	2-12	550

Santa Fe/Los Alamos Area

The Santa Fe/Los Alamos area includes the towns of Santa Fe and Los Alamos as well as other smaller communities in the area. This area comprises 10% of NMGC’s customer base. The pipelines that serve this area include the Santa Fe 20 inch mainline, the Santa Fe mainline, and the Department of Energy (DOE) mainline. Gas is supplied to these pipelines through numerous supply points in the Farmington area (see Farmington area description) and the TW and EPNG interconnects shown in the map below.

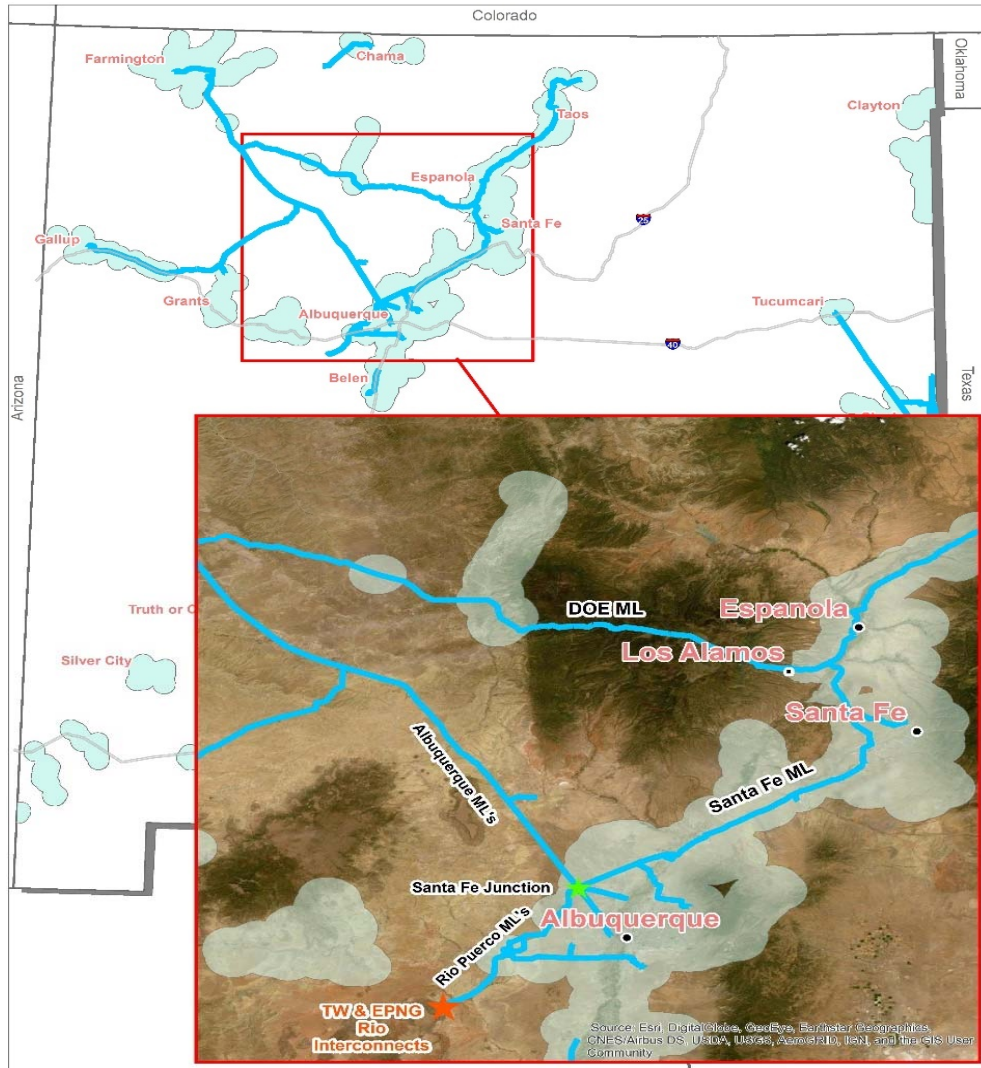


Figure 6 – Overview of Santa Fe and DOE Pipelines and Area

Pipeline Name	Length (miles)	Diameter (inches)	Maximum Allowable Operating Pressure (psig)
Santa Fe 20 Inch ML	17	20	875
Santa Fe ML	72	4-20	559 - 800
DOE ML	103.5	8 & 12	492 - 720

Española/Taos/Red River Area

The Española/Taos/Red River area includes the towns of Española, Taos, Questa, Red River and smaller communities in the area. This area comprises 5% of the total customer base. The pipeline that supplies this area is the Taos mainline which is supplied by the Santa Fe 20 inch mainline, the Santa Fe mainline, and the DOE mainline.

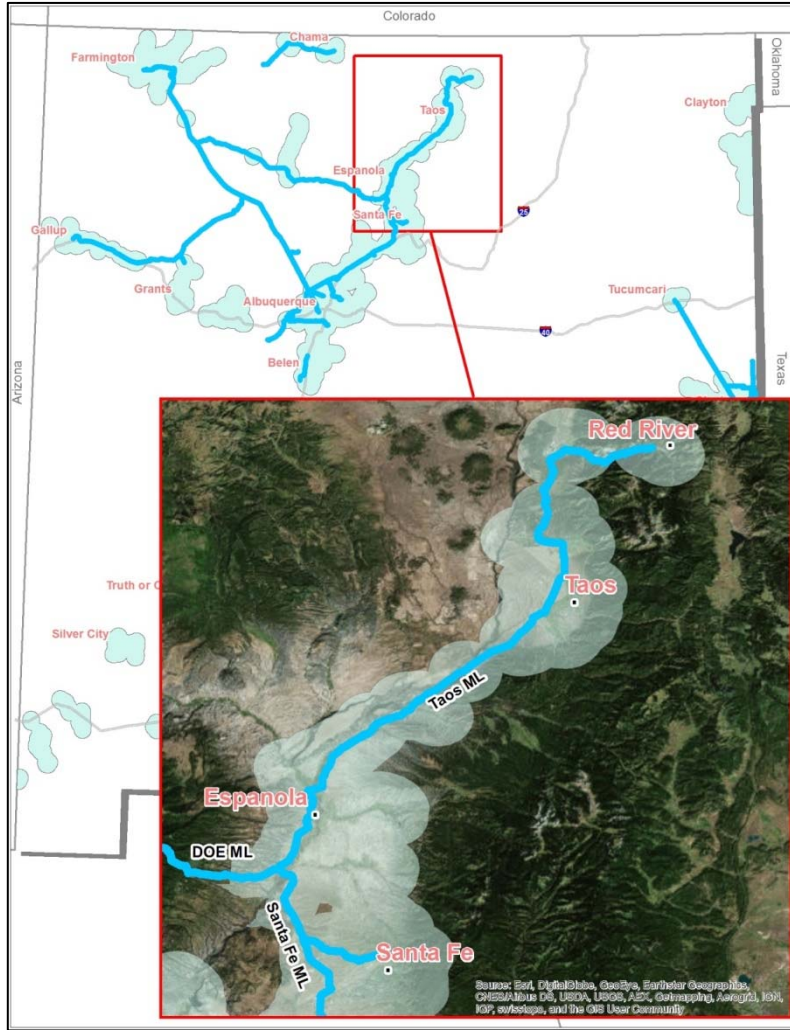


Figure 7 – Overview of the Taos Mainline and Area

Pipeline Name	Length (miles)	Diameter (inches)	Maximum Allowable Operating Pressure (psig)
Taos ML	96	4-12	375
Santa Fe 20 Inch ML	See the Santa Fe/DOE Area Description		
Santa Fe ML	See the Santa Fe/DOE Area Description		
DOE ML	See the Santa Fe/DOE Area Description		

Southeast Transmission System

The SE system supplies the towns of Roswell, Artesia, Carlsbad, Lovington, Eunice as well as other smaller communities in the area. The SE system accounts for 13% of transmission and distribution pipeline mileage and supplies 6% of NMGC's total customers. Natural gas is delivered into the SE system from interstate pipelines and processing plant tailgates as shown in the following figure.

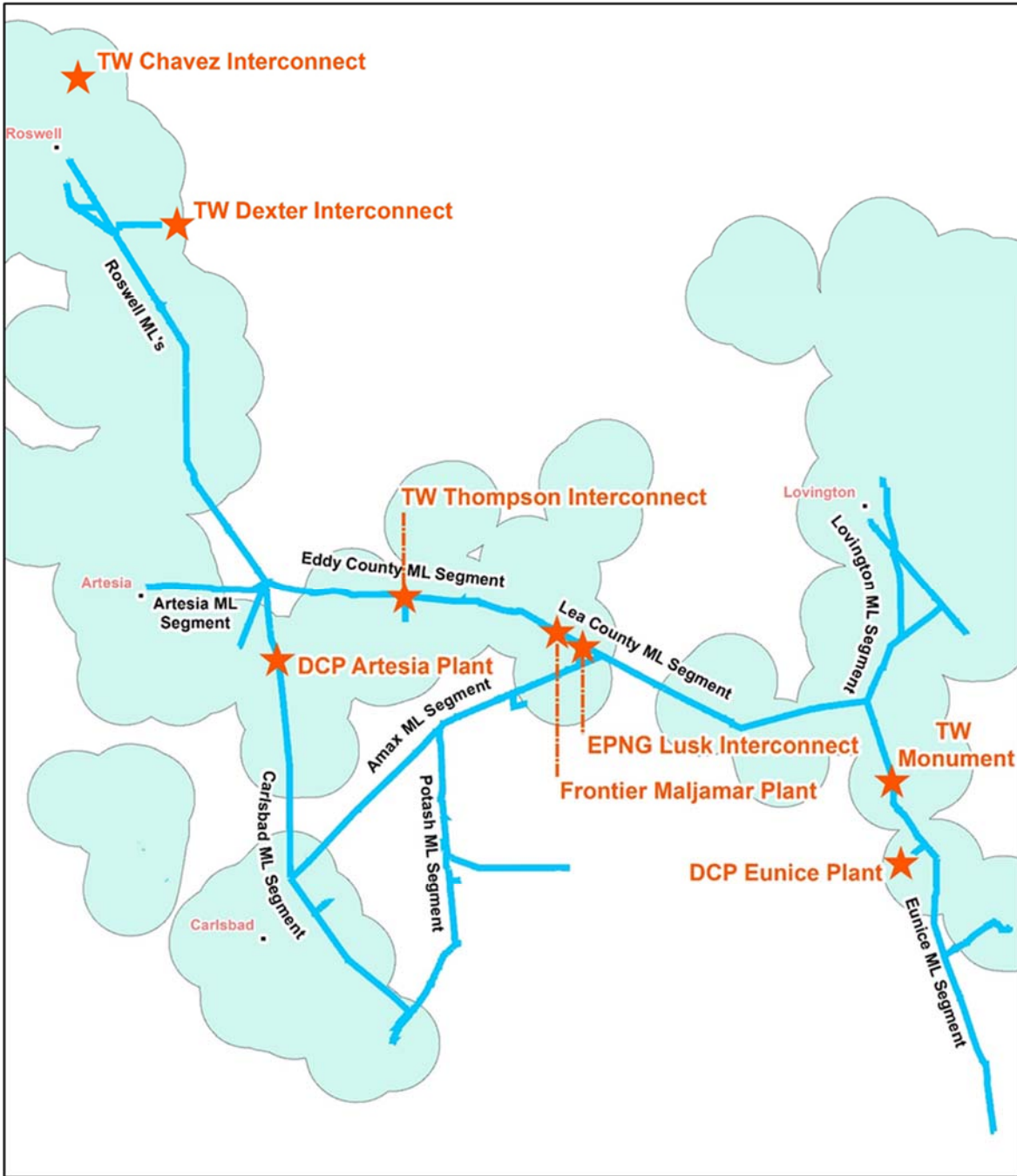


Figure 8 – SE System and Supply Points

Pipeline/Segment Name	Length (miles)	Diameter (inches)	Maximum Allowable Operating Pressure (psig)
Lovington ML	37.6	6 - 8	300 & 600
Eunice ML	49.3	4 - 10	600
Lea County ML	32.1	10	600
Eddy County ML	24.3	4 - 12	870
Amax ML	50.4	6 - 10	333 & 600
Potash ML	47.9	4 - 8	350, 375 & 600
Carlsbad ML	40.6	8 - 10	590
Artesia ML	22.3	4 - 8	348, 600 & 940
Roswell ML	53.7	6 - 10	348 & 1,000

Independent Systems

NMGC serves several areas that are not connected to the larger NW and SE systems and are typically served by an NMGC owned transmission pipeline supplied from an interstate pipeline. These Systems total approximately 15% of the total customer base served by NMGC.

Clovis Area Transmission System

This independent transmission system is made up of 50 miles of 4 through 10-inch diameter pipe and serves the towns of Clovis, Portales, and Tucumcari as well as smaller nearby communities. This system is supplied gas through direct interconnects with both TW and EPNG interstate pipelines.

Belen Area Transmission System

This independent transmission system is 13.7 miles of 8 and 12-inch diameter pipe and serves the towns of Belen, Los Lunas, and smaller nearby communities. This system is supplied gas through direct interconnects with both TW and EPNG interstate pipelines.

Alamogordo Area Transmission System

This independent transmission system is comprised of two parallel pipelines each 68 miles in length and contains both 4 and 6-inch diameter pipe to serve the towns of Alamogordo, Tularosa as well as the smaller communities of Chaparral, White Sands, and Holloman Airforce Base. This system is served through a direct interconnect with EPNG.

Truth or Consequences (T or C) Area Transmission System

This independent transmission system is 41 miles of 4 and 8-inch pipe and serves the towns of T or C, Elephant Butte, and smaller nearby communities. This system is served through a direct interconnect with EPNG.

Anthony Area Transmission System

This independent transmission system is 20 miles of 4 to 12-inch diameter pipe and serves the towns of Sunland Park, Santa Teresa and Anapra. This area is also comprised of small distribution systems that serve Anthony, La Union and other smaller nearby communities in the area. Each system is served through a direct interconnect with EPNG.

Silver City Area

The Silver City area is characterized by small distribution systems in the southwest corner of the state that serve Silver City, Bayard, and portions of Deming and Lordsburg, as well as other smaller communities in the area. Each system is served through direct interconnects with EPNG.

Chama Area

This independent transmission system is a leased pipeline, 40 miles in length of 4 and 6-inch diameter pipe, and serves the towns of Chama, Dulce, and Lumberton. This system is supplied by natural gas production near Dulce.

Clayton Area

This independent system is comprised of small distribution systems that feed the town of Clayton and other smaller nearby communities in the northeast part of the state. The distribution systems are supplied by direct interconnects with West Texas Gas.

CURRENT LOAD FORECAST

NMGC designs the natural gas transmission systems' capacity to operate and provide service to meet design day criteria. A design day is the highest flow volume that gas operations must accommodate within a single gas day. Most of the gas on the NMGC system is used for heating purposes, which means more gas is consumed as temperatures decrease. The Heating Degree Day (HDD) is an index that is approximately proportional to the space heating load. It is defined as the difference between 65°F and the average of the high and low temperatures for the day and is widely used to correlate heat load with temperature. NMGC uses a refinement of the HDD which includes the effect of wind on space heating requirements, which is termed an Effective Degree Day (EDD).

Northwest and Southeast Systems

NMGC contracted Marquette Energy Analytics (MEA) to complete a Design Day Study for the Northwest and Southeast systems. MEA completed the following analysis for NMGC:

- Calculated the expected demand for conditions with an expected return frequency of once every 30 years, once in every 5 years and once in every 1 year
- Calculated the demand expected under these conditions for the prior heating season, and estimated the growth of the demand for the next 10 heating seasons
- Calculated a confidence interval around the estimated demand

To calculate this demand, MEA took weather data, and historical demand and applied this data to design day conditions. This data was then adjusted to match current customer base characteristics to estimate the total design day for each system. The final design day load forecasts include the addition of non-heat sensitive demand, which include industrial and commercial customers.

Independent Systems

For the Independent Systems, internal analyses were conducted utilizing historical weather and selecting the highest load recorded for each system, which correlates to the highest observed EDD. A two percent confidence interval was added, and this volume was then grown utilizing a combination of actual and forecasted annual growth rates from the date the system experienced this demand. The final design day load forecasts include the addition of non-heat sensitive demand, which include industrial and commercial customers.

Below are summary tables of current and projected design day load forecasts and EDD's for NMGC's systems over the 10-year planning period.

Northwest System Design Day Loads

Load Center	2020-2021 Estimated Design Load (MMBtu/d)	2029-2030 Estimated Design Load (MMBtu/d)	Design Day EDD
Albuquerque	408,595	432,466	68
Santa Fe	79,211	90,678	70
Espanola	12,044	12,906	70
Taos	13,365	16,409	72
Los Alamos	18,281	19,001	70
Farmington	41,913	46,872	71
Gallup	30,647	39,008	70
Non-heat Sensitive Demand	70,000	70,000	

Southeast System Design Day Loads

Load Center	2020-2021 Estimated Design Load (MMBtu/d)	2029-2030 Estimated Design Load (MMBtu/d)	Design Day EDD
Roswell	18,834	21,717	62
Artesia	8,322	7,151	62
Carlsbad	11,062	12,323	62
Eunice	4,817	2,258	61
Non-heat Sensitive Demand	65,595	65,595	

Independent System Design Day Loads

Load Center	2020-2021 Estimated Design Load (MMBtu/d)	2029-2030 Estimated Design Load (MMBtu/d)	Design Day EDD
Clovis	21,716	21,799	72
Belen	24,386	33,850	70
Alamogordo	19,200	24,880	64
Truth or Consequences	6,664	7,530	68
Anthony	13,251	22,779	64
Silver City	8,583	8,744	69
Chama	1,992	2,045	76
Clayton	1,541	1,648	72

SUPPLY-SIDE RESOURCES, ISSUES, & STRATEGY

Gas Supply

NMGC's gas supply strategy consists of diversifying supplies between supply basins, among multiple suppliers, differing contract types, and contracting for gas storage. Sourcing supplies from multiple supply basins provides alternatives in the event a supply basin underperforms due to production or processing reductions. Supply disruptions are often caused by winter storms and electrical outages. Freezing weather can cause operational difficulties in gas wells, production facilities, and interstate pipelines. Electrical failures can shut down production and processing plants. Once a processing plant goes offline, it may take days to resume full operations. It is not uncommon for these basins to experience production reductions up to 40% for short durations. The loss of large amounts of gas supply during periods of high demand creates supply challenges for NMGC. By having multiple sources and supply contract options, NMGC increases its flexibility in the way it sources gas and supplies its systems. Gas purchased in advance of need and placed in storage provides a source of firm gas that can be used for short-term peak demand needs.

GAS BASIN DIVERSITY

NMGC contracts for supplies from the San Juan, Permian, Piceance, and Green River Basins to allow for supply diversity and flexibility in sourcing. Should one supply basin become constrained due to regional weather conditions or other production issues, supplies can be increased from other basins. NMGC added the Piceance Basin in northwestern Colorado and the Green River Basin in southwest Wyoming in 2015 as new supply sources to further diversify our gas supply.

CONTRACT, SUPPLIER, AND TRANSPORTATION DIVERSIFICATION

To provide the most reliable gas supply, NMGC enters into several types of contracts with multiple suppliers. By having multiple supply sources and contract options, NMGC has greater flexibility in the event supply from a geographical area is disrupted or a specific supplier fails to perform.

NMGC does not own or control natural gas production or processing. NMGC contracts with producers and marketers for supplies from market pooling points or directly from processing plant tailgates. NMGC diversifies its supply portfolio to guard against the effects of supplier default. These contracts are spread between the supply basins and receipt points on NMGC's delivery systems. NMGC has entered into contracts which specify supply exclusivity and replacement provisions, higher degrees of supply reliability, greater nomination options, and/or delivery point flexibility.

All of the natural gas consumed by NMGC customers must be transported from its source to its point of use. NMGC owns and operates approximately 1,500 miles of transmission pipeline, which serves a significant portion of its transportation needs. For the remainder, NMGC relies on contractual relationships with third-party pipelines. NMGC currently contracts for interstate transportation services from TW, EPNG, Northwest Pipeline, TransColorado (TC), OkTex, and West Texas Gas. NMGC also has four processing plants that deliver gas directly to the NMGC transmission systems with 2 others that are connected via the Blanco Hub. These processing plants often provide the most economical gas on the NMGC system since they eliminate the need to contract for transportation services on interstate pipelines. The gas supply from these plant

tailgates make up a large percentage of the total gas on the NMGC system. Should a processing plant cease to produce gas for any reason, NMGC is forced to react to the loss of a large amount of gas supply on short notice.

To address this issue, NMGC is making system changes which allow for switching to alternate sources of supply. These include the addition of new interstate pipeline interconnects and modifications to the NMGC transmission system.

NMGC holds firm rights for adequate capacity to serve its customers but is mindful that future growth in customer demand may require additional capacity. NMGC is working closely with the interstate pipelines to maximize the flexibility of the capacity it currently holds and to strategically add to its interstate transportation portfolio as opportunities arise.

With production increasing from the Permian basin along with increased demand from Arizona, California, and Mexico, NMGC expects interstate pipeline capacity to become constrained and more expensive over time. There are several segments of interstate pipeline in New Mexico that are already constrained during the winter months. To address these issues, NMGC has begun diversifying its interstate transportation beyond TW and EPNG to include TransColorado and Northwest Pipeline. Also, NMGC has contracted with TW, EPNG, and TransColorado for additional interconnects, which provide operational flexibility and a competitive option when contracting for supply and transportation services.

STORAGE

NMGC currently contracts for storage services in a facility located in Winkler County, Texas that is connected to both TW and EPNG pipelines. Storage is used within the supply portfolio as a swing supply source during higher demand periods, a replacement supply during times of supply disruption, and to provide daily operational balancing. During the peak winter months, NMGC has rights to withdraw up to 217,500 MMBtu/d.

NMGC's gas transmission and distribution pipelines also serve as a limited source of short-term gas storage. The term for this type of gas storage is linepack. During times of lower demand, pressure can be increased in the pipeline system, allowing the pipes to store gas for use during times of greater usage. This type of storage is typically effective to serve the higher morning and evening loads. NMGC has established parameters for useable linepack on its major system segments.

In order for gas storage to be the most effective to meet the needs of NMGC's customers, it should be as near as possible to major demand areas. If storage is located directly on the NMGC system rather than an interstate pipeline, NMGC can dispatch gas based on need rather than being limited to the national gas scheduling cycles, which could delay gas flow for hours. Currently, other than linepack, the only suitable gas storage available to NMGC is distant from the major NMGC demand areas and must be transported to NMGC's system by interstate pipelines. Further, since the storage services are contracted from third parties, those services are subject to contractual *force majeure* provisions at the discretion of the provider, which may reduce NMGC's access to its gas in storage. The cost for these storage services is expected to increase in the future due to demand from other regional utilities, new gas-fired generation in Mexico, and activity in the Permian Basin. NMGC is currently in negotiations to extend our storage contract for up to 3 to 5 years.

PROVIDING COST COMPETITIVE SUPPLY

NMGC ensures contracts for the upcoming winter heating season are competitively priced. NMGC develops and issues a request for proposal (RFP) to solicit bids from potential suppliers specifying volumes and contract types needed at specific receipt points or supply pools.

A winter supply portfolio has been developed to meet demand during a design day event. The following figure depicts NMGC's overall gas supplies for the 2019-2020 winter season. These totals can change from year-to-year based on revisions to design day demand and the amount of gas that NMGC Transportation customers are expected to provide.

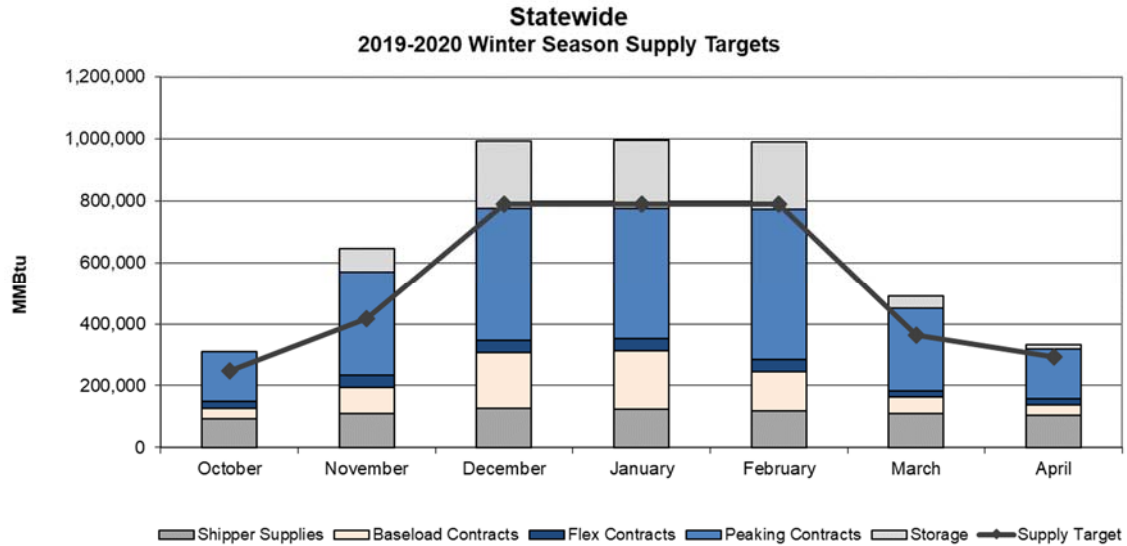


Figure 9 – 2019-2020 Gas Supply Plan – October thru April

NMGC is an open access pipeline which allows NMGC customers to choose their own gas provider and use NMGC pipelines to transport their supply. Historically, these customers have been the larger industrial and commercial end-users. On an annual basis, these customers provide almost half of NMGC's 79 Bcf of volumetric average throughput.

Declining San Juan Basin

NMGC sources natural gas from several regional supply basins, but a greater percentage of gas is sourced from the San Juan and Permian basins due to their proximity.

NMGC currently contracts for up to 60% of design day gas supply from the San Juan basin. The San Juan Basin currently produces approximately 2 Bcf/d. Although the San Juan Basin has seen steady decline for the past several years in production and investment, it still produces a significant amount of natural gas. The decline is being driven by economics which favor drilling and development of liquid rich plays and lower cost natural gas from shale and tight formations in other basins. Therefore, companies are restructuring drilling and production programs to areas with more favorable economics. In addition, several of the large producers have sold their San Juan assets, allowing them to focus on other areas.

To address this issue, NMGC has begun contracting for transportation and supplies in the Piceance and Green River basins. In addition, to broaden access to existing San Juan basin production, NMGC has added a new high-pressure interconnect to the NW system. This interconnect allows NMGC to have more supply options in the El Paso San Juan Pool.

While production in the San Juan is decreasing, gas production in the Permian basin is on the rise. The drilling activity in the Permian Basin is primarily focused on crude oil with natural gas being a by-product, commonly referred to as associated gas. The market for hydrocarbon liquids has prompted more exploration and development in this area, and an increase in natural gas output has resulted.

Much of this new gas is expected to flow across New Mexico to find markets in Arizona, California, and Mexico. As the San Juan basin declines and the Permian Basin increases in natural gas output, NMGC may source more gas from the Permian basin. NMGC's Rio Puerco Mainline Looping Project, which was completed in 2016, has increased NMGC's receipt capacity from the interstate pipelines that are transporting Permian basin gas supplies. The Malaga Interconnect, projected to be completed in the winter of 2020, will also provide an additional source of Permian supply to the Southeast system.

However, the recent reduction of global oil prices due to an OPEC non-agreement and demand reduction due to the Coronavirus may have a long-term effect on future drilling, which could cause price increases for natural gas as the supply and demand curve narrows.

ENHANCEMENTS TO RESOURCES AND INFRASTRUCTURE

NMGC ensures the sizing of its transmission and distribution systems are sufficient in order to allow for safe, reliable service and accommodate future growth. Projects which substantially increase system capacity are often large in size, capital intensive, and require long planning cycles. Existing pipeline infrastructure is continually evaluated regarding safety and operational suitability. Based on these evaluations, segments are enhanced, or their operational parameters revised to best serve the customer.

NMGC's pipelines and facilities across the state must traverse public, private, and Native American jurisdictions. Based on historical experience, right-of-way (ROW) costs are one of the fastest growing costs of new gas facility construction. Access to facilities on public lands is also becoming increasingly difficult and conditioned with limitations that restrict necessary evaluation and maintenance activities and contribute to increased costs.

To address these issues, NMGC is proactively working with stakeholders to provide adequate timing for project planning and construction. In some cases, alternate pipeline routes and facility locations can be identified to avoid contentious and/or expensive ROW and to avoid access issues.

The following projects are currently in advanced planning or construction phases.

Malaga Interconnect

This project will be located in Southeast New Mexico and will connect to the Pecos Valley mainline. It will consist of 9.3 miles of 12-inch steel transmission pipe. This interconnect will connect NMGC's system to growing production in the Permian Basin where natural gas processing plants were recently constructed near the community of Loving, NM. The interconnect will provide NMGC access to high-reliability gas supply while further diversifying supply and improving system operations. It adds capacity to supply the SE System which includes the towns of Roswell, Artesia, Carlsbad, Lovington, Eunice as well as other smaller communities in the area. This additional capacity will allow for future system growth and allow additional supply to the system without relying on a third-party pipeline.

Estimated Cost as of April 1, 2020: \$16 Million

Estimated Completion Date: Winter 2020

Santa Fe Mainline Looping

This project entails installing 35 miles of 20-inch transmission pipeline parallel to the existing Santa Fe 12-inch mainline between Albuquerque and Santa Fe. This project will add capacity and gas deliverability to the Santa Fe/Los Alamos and Española/Taos/Red River Areas. This project is necessary to ensure adequate capacity for growth and to compensate for the future capacity reduction of the DOE mainline which crosses sensitive environmental areas and has become increasingly difficult to maintain due to age and access issues. The project has been performed in phases over the past couple years and is on schedule to go in service this year. When complete, it will increase the Northwest system capacity and reliability. This addition will also increase useable line pack in the NW system.

Estimated Cost as of April 1, 2020: \$62 million

Estimated Completion Date: Winter 2020

Redondo Compressor

New piping and compression will be added near the TW/EPNG Rio Interconnect on the Northwest System. The compressor provides for growth and reliability. This project adds capacity, flexibility and provides the ability to move higher pressure gas to the Northwest System during peak winter demand.

Estimated Cost as of April 1, 2020: \$8.5 million

Estimated Completion Date: Fall 2020

T or C Mainline Looping

In recent years, there has been system load growth due to an increase in the number of businesses in the area that use natural gas to fuel agricultural dehydrators. NMGC has begun to add capacity to the T or C mainline by looping the first 3 of 9 miles of 8-inch pipe which will be completed in phases.

Estimated Cost as of April 1, 2020: \$3 - \$8 million

Estimated Completion Date: Ongoing - 2023

Distribution System Projects

NMGC continuously updates and enhances its distribution systems with projects that range from adding system capacity, installing secondary feeds, adding and/or rebuilding station infrastructure, and replacing pipe. These projects, which will continue through this planning period, ensure system reliability and system flexibility to meet customer demand today and in the future. Included in this category of projects are System Reinforcements, Legacy Replacements, and Town plant Specifics.

Estimated Cost as of April 1, 2020: \$64 million

Estimated Completion Date: Ongoing - 2029

RESOURCES AND INFRASTRUCTURE UNDER CONSIDERATION

Albuquerque Mainline Looping and Pressure Upgrades

The Albuquerque mainline brings gas from northwest New Mexico to the Santa Fe Junction, a major distribution point of the NW system. In addition to gas from the San Juan basin, the Albuquerque mainline receives gas from pipelines reaching into northwestern Colorado, Utah, Wyoming, and Canada. Depending on the market dynamics of gas supply and transportation, NMGC may wish to enable the Albuquerque mainline to transport more gas by adding capacity through looping and pressure upgrades.

Expansion to Unserved and Underserved Areas

Large areas of New Mexico do not have natural gas service due to distance from existing natural gas infrastructure and high costs to extend facilities. Revisions to the line extension policy, Rule 16, have made it more economical for customers across the state to receive gas service from NMGC. Through March of 2020, NMGC's Infrastructure Expansion Program has assisted with the expansion into 44 unserved communities as well as provided 1,289 conversion rebates for customers switching to natural gas as a fuel source. In addition, NMGC will continue to evaluate the feasibility of new supply options such as compressed natural gas (CNG) and liquefied natural gas (LNG) to provide supply to communities that are not close to existing gas infrastructure.

Renewable Natural Gas

NMGC is working to be part of the solution to climate change in New Mexico and has engaged in a study with Navigant Consulting Inc. to inventory the Company's greenhouse gas impact on the state, as well as to help consider how to reduce these impacts. NMGC is proposing three strategies to reduce its carbon dioxide and methane emissions (together "GHG Emissions") within the state of New Mexico.

- **Research and Development Program**
NMGC will engage with New Mexico's universities, national labs and other local experts, to develop technology and methodologies that can be used to reduce NMGC's GHG footprint in the state such as renewable natural gas and hydrogen blending.
- **Energy Efficiency**
NMGC enhanced the Energy Efficiency programs for customers to reduce GHG Emissions at the burner tip.
- **GHG Emissions Reduction**
 - Compressed Natural Gas (CNG) Initiative:
NMGC is moving to change fleet vehicles from gasoline to CNG, as well as working with local governments to transition their fleets. This would include constructing CNG filling stations for Company use and eventual public use, potentially creating a measurable impact on the transportation industry.

- Leak Repair Initiative:
In addition to continuing the replacement or upgrades to NMGC's legacy pipe assets, which provides a lower system leak frequency as compared to many other gas utilities, NMGC is committing \$1 million annually in repairing non-hazardous leaks.
- Solar Initiative:
In the next two to three years, NMGC will place solar panels at company-owned buildings. These solar facilities will reduce GHG Emissions and support the objectives of the Energy Transition Act.
- Wizard Controller Replacement Initiative:
NMGC will replace 100 .9 of its Wizard Controllers over the next two years. These controllers utilize gas pressure to move a valve. The replacement of these controllers will decrease GHG Emissions by reducing the amount of supply gas vented into the atmosphere.

NMGC ENERGY EFFICIENCY PROGRAM

Introduction

Pursuant to the Efficient Use of Energy Act (EUEA) and consistent with the NMPRC Energy Efficiency Rule 17.7.2 NMAC (EE Rule), the NMGC Energy Efficiency Program is designed to help NMGC customers reduce their energy usage and save money on their utility bills by providing incentives for installing energy efficiency measures in their homes and businesses. The EUEA authorizes public utility investments in energy efficiency and load management and consequently, finds that investing in cost-effective energy efficiency and load management is an acceptable use of customer money. The EUEA requires the NMPRC to direct utilities to evaluate and implement cost-effective energy efficiency programs. In 2009, the Commission hired an independent evaluator and third-party contractor, ADM and Associates (ADM) through a competitive bidding process to ensure compliance with the measurement and verification reporting requirements of the EE Rule for program years 2010 through 2016. In 2017, the Commission replaced ADM with Evergreen Economics (Evergreen) as the independent third-party contractor to evaluate program years 2017 through 2020.

Energy Efficiency Program Development

Methodology

The EE Rule requires the use of a cost effectiveness threshold test for program consideration, as measured by the Utility Cost Test (UCT). The UCT is the ratio of the net-present-value of the benefits of a program to the costs that includes the utility's costs to implement the program and the savings are based on the avoided gas costs. A benefit-cost ratio greater than one indicates that the program is cost-effective and is beneficial to the ratepayer. All programs proposed by NMGC have a UCT of 1.0 or above.

Energy Efficiency Public Advisory Process

NMGC conducted two Energy Efficiency Public Advisory Group¹ meetings in 2019. NMGC presented information detailing the energy savings achieved at the conclusion of Program Year 2018, provided details on the programs for Program Year 2019, and explored potential new programs for 2020 through 2022 through the solicitation of program ideas and presentation of programs and measures employed in other areas of the country. Group discussions also covered the findings of the 2018 Measurement and Verification (M&V) report and the annual energy efficiency program report and potential modifications of programs proposed for 2020 - 2022.

The Energy Efficiency Advisory Group provided significant input into the current and proposed energy efficiency programs and measures, evaluation methodology and potential implementation methods for the 2019 and 2020 - 2022 NMGC energy efficiency programs.

¹The members of the Energy Efficiency Advisory Group include: New Mexico Public Regulation Commission Utility Staff; New Mexico Department of Energy Minerals and Natural Resources; New Mexico Mortgage Finance Authority ("MFA"); the Southwest Energy Efficiency Project; ICF International; CLEARresult; Public Service Company of New Mexico; AARP; Raton Natural Gas; Zia Natural Gas; and several residential customers.

2020 - 2022 Portfolio of Energy Efficiency Programs

NMGC's 2020 - 2022 Portfolio of energy efficiency programs are subject to approval by the NMPRC in NMPRC Case No. 19-00248-UT. This portfolio includes program applications for sales and transportation customers in the residential and commercial customer classes. The 2020 - 2022 energy efficiency program portfolio includes:

Residential

- The Water Heating Program
- The Space Heating Program
- The New Homes Program
- The Income Qualified Program
- The Multi-Family Program

Commercial

- The Commercial Efficient Buildings Program

Participants in NMGC's energy efficiency programs can see a significant reduction in annual gas consumption depending on the programs in which they participate. Estimated energy savings for residential programs range from 20 to 326 therms per year.

The following table shows the anticipated participation and annual therm savings for each program for the program years of 2020 - 2022. The therm savings have been adjusted to account for the number of free-riders as reported by the independent evaluator.

Summary of Anticipated Program Participation		
Program	2020 - 2022 Estimated Participation	2020 - 2022 Total Annual Therm Savings*
Water Heating	4970	156,712
Space Heating	1325	74,529
New Homes	850	221,631
Income Qualified	679	209,000
Multi-Family	2134	198,478
Efficient Buildings	357	649,090
All Programs		1,509,440
<i>*Adjusted for free-ridership</i>		

For additional information and program detail regarding NMGC's 2020 - 2022 energy efficiency programs, see NMPRC Case No. 19-00248-UT. Energy efficiency program requests are made tri-annually by NMGC and are expected to continue throughout the 10-year IRP planning horizon.

Measurement and Verification of Energy Efficiency Programs

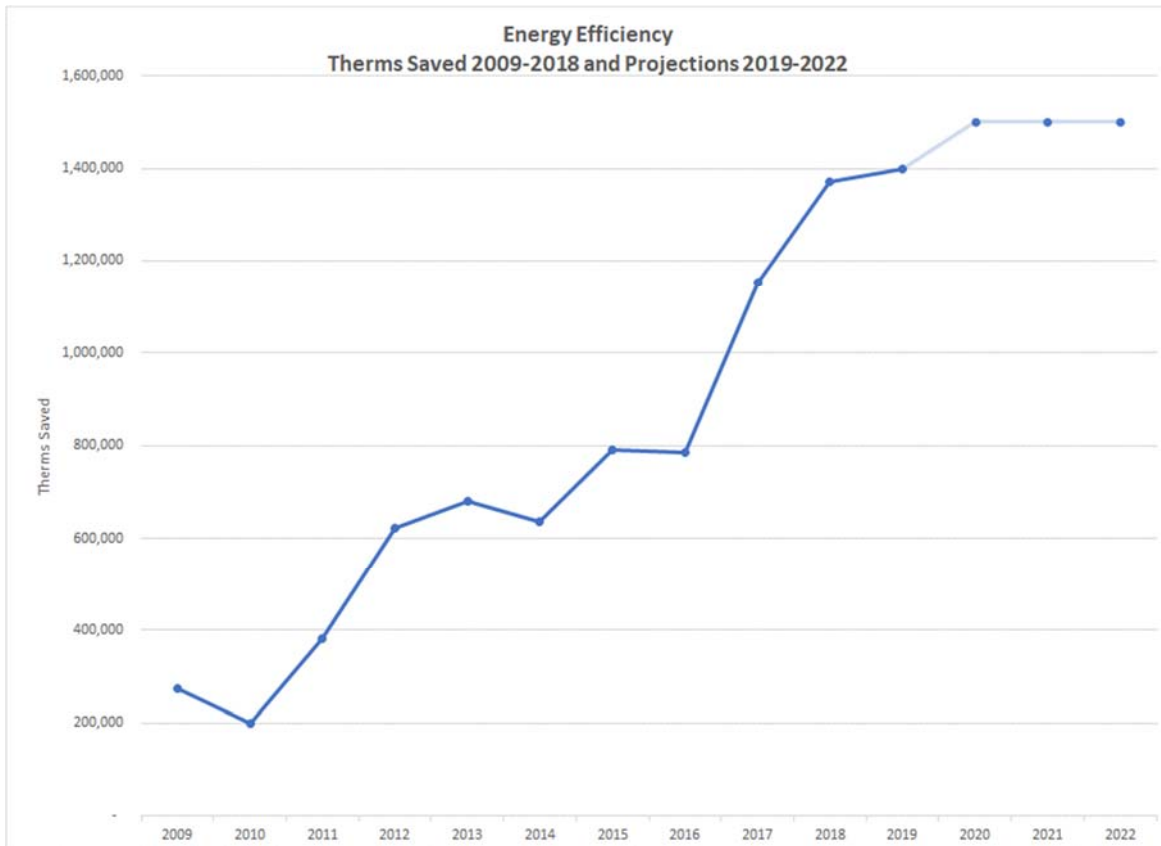
NMGC has worked closely with the independent evaluator Evergreen to provide them with the data necessary to complete all the annual M&V reports since 2017. This included rebate processing files, budget data by program, MFA program files and avoided cost information. The 2019 report, which will include actual gas savings realized through energy efficiency program implementation, will be submitted to the NMPRC by July 1, 2020.

NMGC is required by the EE Rule to file the independent evaluator's M&V Report as well as its own Annual Program Report, which reports actual participation rates and budgets, with the NMPRC by July 1st of each calendar year. Program proposals and modifications have typically been filed annually in August or September.

The most recent Annual Program Report and independent evaluator M&V Report are available through NMGC's web site at http://www.nmgco.com/en/regulatory_filings.

Energy Efficiency Impact on Integrated Resource Plan

NMGC's energy efficiency programs have continued to expand. NMGC's 2020 - 2022 proposed energy efficiency programs can be found in NMPRC Case No. 19-00248-UT. Public awareness and participation levels are increasing – and therm savings are the result. NMGC's energy efficiency programs are available to both sales and transportation customers in a number of customer classes. Anticipating the enhancement and development of new programs, the following graph illustrates what NMGC is estimating will be savings from its energy efficiency programs through 2022.



From an overall system planning standpoint, energy efficiency gains have yet to be a significant offset to peak customer demand. Improvements in technology and building standards combined with expanded participation in energy efficiency programs offer the promise of compounded gas savings over time.