BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF THE APPLICATION OF NEW MEXICO GAS COMPANY, INC. FOR APPROVAL OF REVISIONS TO ITS RATES, RULES, AND CHARGES PURSUANT TO ADVICE NOTICE NO. 87	)	**Case No. 21-00267-UT**
NEW MEXICO GAS COMPANY, INC.	)	
Applicant.	)	

DIRECT TESTIMONY AND EXHIBITS

OF

TOM C. BULLARD

December 13, 2021

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NMPRC CASE NO. 21-00267-UT

Table of Contents

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Tom C. Bullard. My business address is 7120 Wyoming Blvd., N.E., Albuquerque, New Mexico 87109.

Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am the Vice President of Engineering, Gas Management and Technical Services for New Mexico Gas Company, Inc. ("NMGC" or the "Company").

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. My educational background and work experience are described in NMGC Exhibit TCB-1.

Q. PLEASE DESCRIBE YOUR DUTIES AND RESPONSIBILITIES AS VICE PRESIDENT OF ENGINEERING, GAS MANAGEMENT AND TECHNICAL SERVICES FOR NMGC.

A. I am responsible for (i) the engineering and design of the NMGC natural gas distribution and transmission systems that serve the Company's residential, commercial, and industrial customers throughout the State of New Mexico; (ii) executive oversight of NMGC's capital plant and expenditures; (iii) the right-of-

way, environmental, safety, and geographic information system departments; and (iv) gas acquisitions, gas supply, system planning, and the gas control and compression functions of the Company. I am also responsible for discounted transportation rates, which are discounted rates negotiated between the Company and certain transportation customers pursuant to 17.10.660 NMAC ("Rule 660").

Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY TO THE NEW MEXICO PUBLIC REGULATION COMMISSION ("NMPRC" OR THE "COMMISSION")?

A. Yes, I filed direct testimony in NMPRC Case Nos. 19-00317-UT, 19-00318-UT, and 20-00130-UT.

Q. HOW IS YOR DIRECT TESTIMONY ORGANIZED?

A. My Direct Testimony is organized as follows:

- in Section II, I discuss NMGC's capital budgeting and prioritization process, including how priorities for capital projects are established and how capital budgets are monitored;
- in Section III, I describe the key capital investments that will be put into service in 2022 and 2023, especially those related to federal regulations requiring management plans, automated meter reading equipment, and rights-of-way, and explain how the capital investments benefit customers;

- in Section IV, I describe how NMGC's operations and maintenance ("O&M") expenditures related to federal regulations requiring integrity management plans;
- in Section V, I provide information about and support for NMGC's discounted gas transportation rates, and recommend canceling a discounted rate that is no longer applicable because the end-user has closed its facility; and
- In Section VI, I explain the reasons for a new rate tariff to serve third-party compressor stations utilized in the natural gas production industry in New Mexico.

Q. ARE YOU SPONSORING ANY RULE 17.10.630 NMAC ("RULE 630") SCHEDULES?

A. Yes, I am sponsoring four Rule 630 schedules as follows:

- Schedule Q-1 – Peak Demand Information;
- Schedule Q-7 – Scheduled Maintenance Information;
- Schedule Q-8 – Customer Service Interruption Information; and
- Schedule R-2 – Load Research Program.

Additionally, I provide information related to rights-of-way expenses that are contained in 630 Schedule H-7.

Q. DOES YOUR TESTIMONY RELATE TO TESTIMONY PRESENTED BY OTHER COMPANY WITNESSES?

A. Yes. I am responsible for NMGC's overall capital plan for the years 2021, 2022 and 2023 which will be used by NMGC Witnesses Jimmie L. Blotter and Erik C. Buchanan to develop NMGC's cost of service. For purposes of my testimony relating to the overall capital plan, I rely upon the testimony of fellow NMGC Witnesses Michael K. DeCourcey (information technology, and telecommunication), Gerald C. Weseen (green house gas initiatives), and Denise E. Wilcox (security enhancements).

Q. CAN YOU PLEASE BRIEFLY DESCRIBE NMGC'S CAPITAL INVESTMENT AMOUNTS FOR THE YEARS 2021, 2022, AND 2023?

A. Yes, there are $428.3 million of capital improvement-related costs that will be placed in service in 2021, 2022, and 2023. This amount breaks down as following:

- January 2021 – December 2021: $183.5 million;
- January 2022 – December 2022: $121.7 million; and
- January 2023 – December 2023: $123.1 million.

The total investment in 2022 and 2023 equals $244.8 million.

Q. IN NMGC'S LAST RATE CASE, NMPRC CASE NO. 19-00317-UT, YOU TESTIFIED THAT CAPITAL SPENDING IN 2021 WAS EXPECTED TO

BE $93.6 MILLION. YOU JUST STATED THAT THE CAPITAL IMPROVEMENTS THAT BECAME USED AND USEFUL IN 2021 WERE $186.1 MILLION. WOULD YOU PLEASE EXPLAIN THE DIFFERENCE?

A. There are two reasons for this. First, in my 2019 testimony, I testified as to the amount that was being spent each year for capital improvements. The timing of capital improvements spending does not necessarily align with the timing of changes in rate base, and thus rates, as rate base is only increased once a project is in service and used and useful. For larger projects NMGC may spend money over several years, but those amounts are not added to rate base until the project is put into service. Some of the spending that was included in my prior testimony for spending in 2019 and 2020 did not become part of rate base until 2021. This is especially true for the Santa Fe Mainline Looping Project, which was over $60 million of capital investment, the majority of which was spent in 2020. This project went into service in 2021, so the entire amount of the project was added to rate base in 2021, even though most of the spending occurred in 2020. Another example is the Malaga Pipeline. NMGC invested $6.7 million in the Malaga Pipeline project during 2020, but the project was put in service in 2021. Thus, the entire amount of this project was also included in rate base in 2021.

Second, like many other companies, NMGC experienced project delays and cost increases during the COVID-19 pandemic. This contributed to spending that was originally marked for 2020 to be delayed until 2021.

I do want to emphasize that NMGC made the total capital investment that I previously testified to over the three-year period of 2019 through 2021. Those amounts are already in rate base, and none of the capital investment amounts in NMGC's last rate case are part of the projected revenue deficiency that we are pursuing in this case.

Q. PLEASE BRIEFLY DESCRIBE NMGC'S TRANSMISSION AND DISTRIBUTION SYSTEMS.

A. NMGC provides natural gas utility service throughout New Mexico. NMGC's transmission and distribution facilities serve customers all over the State. NMGC operates approximately 1,500 miles of transmission pipelines (the "Transmission System"), and over 10,800 miles of distribution pipelines (the "Distribution System").

II. CAPITAL INVESTMENT PROCESS

Q. PLEASE DESCRIBE NMGC'S NORMAL CAPITAL EXPENDITURE PROGRAM.

A. Every year, NMGC spends significant capital to maintain and improve its system to provide safe and reliable natural gas utility service to its customers. NMGC primarily makes capital improvements for four reasons: 1) new customer growth, 2) system reliability, 3) in response to issues that arise during NMGC's normal operations, and 4) proactive system improvements.

Investments related to new customer growth primarily relate to extending NMGC's Transmission and Distribution Systems to serve new customers. NMGC makes these investments consistent with NMGC First Revised Rule No. 16, which is NMGC's Commission-approved line extension program. These investments provide benefit to new customers by providing reliable gas service at just and reasonable rates, and benefit existing NMGC customers by spreading our operating costs over a broader base of customers.

Investments related to system reliability are made when NMGC determines additional investment is necessary to continue to provide efficient and reasonable gas service to our customers as required by 17.10.650 NMAC. NMGC continually performs hydraulic system modeling of its Transmission and Distribution Systems to identify areas that may need improvements to accommodate system growth and provide adequate capacity for our customers' current and future needs. In addition, as required by NMPRC regulation, every four years NMGC develops an Integrated Resource Plan ("IRP") with public input to ensure our Transmission System has the capacity to meet current and future customer requirements. We use the IRP and hydraulic system modeling to plan transmission improvements in the near and long term.

System improvements made in response to issues that arise during NMGC's normal operations are investments which are generally not predictable months in advance, such as the repair of system leaks. When we find system leaks, we replace the portion of the distribution main or service lines that are leaking. Additionally, piping and other system components including meters, regulators, and other equipment are continuously being replaced and protected with investments such as cathodic protection equipment.

Proactive improvements are primarily driven by NMGC's distribution and transmission integrity management programs. NMGC has integrity management programs consistent with federal and state regulations to ensure we are proactively identifying and mitigating the highest relative risks to people and property on our systems. The overarching objective of these proactive integrity management programs is to protect and enhance public safety. Proactively mitigating the highest relative system risks will, over time, enhance the overall safety of our Transmission and Distribution Systems.

Q. PLEASE DESCRIBE NMGC'S CAPITAL IMPROVEMENT EVALUATION PROCESS.

A. The capital improvement evaluation process is NMGC's program to review, standardize, and control its capital investments. This process is driven by NMGC's

mission to provide efficient and reasonable service to customers. Consistent with prudent engineering practices, and as part of our ongoing work to meet the Commission's service standards set out in 17.10.650 NMAC, NMGC is constantly evaluating its system for potential improvements. NMGC then balances these potential improvements against the potential rate impact to customers.

Through this process, NMGC continually identifies projects that could improve the safety, reliability, and operations of its system. NMGC begins every possible significant capital project by evaluating multiple possible solutions to the issue creating the need for capital improvements. Each potential solution is then evaluated for the relative cost/benefits of that solution including evaluation of environmental issues, permitting issues, land use issues, financing issues, and myriad other factors unique to any individual project. The options resulting from this evaluation are assessed to identify issues that could affect project viability. Such issues may include difficulty reconciling project schedules and budgets with the potential construction requirements of the site, the potential to experience delay due to necessary permitting and procurement requirements, difficulty in obtaining necessary sites or rights-of-way, required public input processes, or environmental compliance requirements. Cost estimates used in both the feasibility planning stage and for comparison between alternatives, are based on estimated line mileages, NMGC cost data that are periodically updated, and construction standards. The

most cost-effective, viable option is selected for further evaluation in relation to NMGC's overall capital plan.

All of these projects are entered into a capital management software system, which develops a recommended portfolio of projects using information entered for each project by Company subject matter experts. The software uses a value framework created by the Company that considers the following categories when recommending a portfolio of projects: regulatory requirements, system reliability, safe and secure operation of the system, cost savings, efficiency, productivity, improving customer service, and environmental stewardship. For every specific capital project, values must be input for each of these categories. In order to help ensure a thorough weighing of each project, a committee of NMGC leaders meets with each NMGC subject matter expert that proposes a capital project to review the values that the person assigned to each of the categories above. Additionally, any projects that result in values that are outliers (such as projects with the highest values, the lowest values, and any with negative values), and projects which a subject matter expert has designated as "must-do", are discussed in a meeting with NMGC leaders, and a consensus is reached on the values assigned for each category of the project being analyzed prior to running the software.

Once the capital management software has ranked the projects, the NMGC Capital Allocation Team ("CAT") reviews the results of the analysis and list of projects to determine whether any adjustments should be made based on the team's judgment. The CAT is made up of leadership and subject matter experts from across the Company, including myself, NMGC's Vice President of Regulatory, Strategy and External Affairs, NMGC's Vice President of Operations, NMGC's Vice President of Finance, NMGC's Director of Delivery, NMGC's Director of Engineering Services, managers in NMGC's Operations group, and managers in NMGC's Engineering group. I am the leader of the CAT and the team meets on a monthly basis to discuss NMGC's capital expenditures and the status of capital projects across the business.

Once a list of possible projects is prioritized, including budget amounts for routine types of projects that will occur during the year, the CAT works with NMGC's Finance group, including the Vice President of Finance, to determine a spending threshold that best balances the provision of safe and reliable service with rates that are fair, just, and reasonable. Any projects that fall below the threshold that is established are not included in NMGC's capital spending for the upcoming year. The CAT reviews the proposed projects that fall below the threshold to ensure that delaying those projects will not adversely impact the Company's ability to provide service to customers.

Finally, the proposed capital spending for the year is included in NMGC's overall budget for the year, which is reviewed by management and then presented to NMGC's Board of Directors for approval.

Q. PLEASE DESCRIBE HOW CAPITAL PROJECT COSTS ARE DETERMINED WHEN CREATING NMGC'S CAPITAL PLAN.

A. NMGC's personnel have many years of experience constructing capital projects, and estimating the time, labor, and equipment required for the large majority of NMGC's capital projects based on information available from recent similar projects. NMGC obtains cost estimates for materials from various distributors and manufacturers, and uses those costs when preparing capital project estimates.

For certain projects, NMGC will contract with construction firms to perform many of the construction activities. In these instances, NMGC issues a request for proposals and invites construction firms to submit cost bids for the scope of work needed for the project. NMGC analyzes these bids to ensure the winner of the bid is not significantly out of line with other bidders.

Q. HOW DOES NMGC ENSURE MATERIAL AND SUPPLY COSTS ARE REASONABLE?

A. NMGC utilizes wholesale vendors that provide bulk materials and requests bids for materials on large projects such as compressors or pipelines over ten miles. Additionally, for certain significant projects, NMGC utilizes purchasing contracts through its affiliates, Tampa Electric Company and Peoples Gas, when available, to take advantage of economies of scale in order to create higher volume purchases to achieve better pricing.

Q. DOES NMGC HAVE A PROCESS TO ACCOUNT FOR UNEXPECTED EVENTS IN RELATION TO ITS CAPITAL PLAN?

A. Yes. We know that unexpected developments occur with planned projects, and that unplanned projects crop up as well. To meet these unexpected developments, the CAT has a process in place to ensure the funding of necessary, but unbudgeted, capital expenditures while not exceeding the overall approved capital budget. The process involves documenting, as early as possible, the need for the new expenditure and identifying a budgeted project expenditure that can be postponed to accommodate the new expenditure. Finally, any change to the capital plan requires my approval as the leader of the CAT.

Q. DOES THAT MEAN THAT IN ORDER TO FUND A NEW PROJECT, NMGC MUST ALWAYS ELIMINATE OR DELAY PREVIOUSLY APPROVED PROJECTS?

A. No. The process I described above is NMGC's preferred method of addressing unplanned capital needs. In the event that a significant unplanned capital improvement expense occurs, and NMGC cannot safely delay other projects in order to shift expenditures, NMGC would still undertake all of the projects critical to its continued provision of safe and reliable natural gas service. NMGC would do this regardless of whether that meant spending more in a given year than originally approved in the capital plan.

Q. HOW DOES NMGC MANAGE ITS CAPITAL INVESTMENTS?

A. NMGC manages its capital investments by category. These categories are: 1) transmission specific projects; 2) distribution specific projects; 3) transmission blankets; 4) distribution blankets; 5) general plant; 6) information technology and telecommunication ("IT&T"); and 7) large unique projects. NMGC uses these categories because the projects within each category are similar in nature and generally managed within one business area.

Q. PLEASE DESCRIBE WHAT IS MEANT BY THE "BLANKET" CAPITAL INVESTMENT CATEGORIES.

A. There are two blanket categories identified above: transmission and distribution blankets. In each of these categories, blankets are comprised of recurring projects

that are individually less than $200,000. Projects that do not meet the description for blankets are categorized as specific projects.

In the distribution area, blankets include: meter replacements, short mainline extensions, relocation of distribution facilities, cathodic protection upgrades, minor system improvements, and service line extensions. These are recurring type operations that include labor for design and installation, materials, permitting, and right-of-way acquisition. Historically, NMGC spends approximately $25 million annually on projects that fall within the "Distribution Blanket" category. Distribution projects that do not meet this description are categorized as "Distribution Specific" projects.

In the transmission area, blanket projects include the updating, replacing, or rehabilitating of equipment, pipelines, or structures that have reached the end of their useful life. Examples include upgrading, relocating, or replacing meter stations and regulator stations. Historically, NMGC spends approximately between $1.5 million and $2 million annually on projects that fall within the "Transmission Blanket" category. Transmission projects that do not meet this description are categorized as "Transmission Specific" projects.

Overall, blankets consist of numerous small projects that generally address localized issues. Many of these repairs and replacements occur throughout the year, and are often not specifically planned months in advance. This means that these types of expenditures, while critical, cannot be specifically projected and identified by name or location, but NMGC can reasonably forecast the amounts it will normally spend in any given forecasted period based on historical experience.

Q. WHAT IS THE "GENERAL PLANT" CATEGORY OF CAPITAL PROJECTS?

A. The general plant category involves capital expenditures relating to fleet and power equipment purchases such as backhoes and other similar equipment, facility improvements to our office locations, and tools and equipment utilized by our crews in providing safe and reliable gas service. NMGC bases its fleet and power equipment replacements on run hours or mileage to ensure it continues to maintain a reliable and safe vehicle fleet and proper tools and equipment for its employees. Tools and equipment are generally replaced as they reach the end of their useful life in order to ensure crew member and customer safety, and to help avoid crew downtime due to tool or equipment failures. Facility improvements include enhanced safety and security measures, roof replacements, and other necessary improvements to office spaces.

Q. WHAT IS THE "LARGE/UNIQUE" CATEGORY OF CAPITAL PROJECTS?

A. Large and unique includes larger projects that are not reoccurring. We are currently forecasting only a few large/unique projects, the majority of which are related to NMGC's integrity management plan activities.

Q. WHAT IS THE "IT&T" CATEGORY OF CAPITAL PROJECTS?

A. The IT&T category of the capital plan encompasses all purchases of hardware, software, and telecommunications equipment necessary for NMGC to run its business. NMGC Witness DeCourcey provides background and business information on capital improvements related to IT&T.

Q. WHAT IS NMGC'S HISTORICAL TREND FOR COSTS INCURRED DURING THE IMPLEMENTATION OF THE CAPITAL PLAN EACH CALENDAR YEAR?

A. On average, over the last five years, 63% of NMGC's capital improvement spending has occurred in the second half of the year. NMGC's capital spending each year is, therefore, not a flat line, and instead more closely resembles a steady incline or ramp.

Q. WHY DOES NMGC MAKE THE MAJORITY OF ITS CAPITAL IMPROVEMENT EXPENDITURES IN THE SECOND HALF OF THE YEAR?

A. There are several reasons. First, NMGC by design minimizes construction activities during the peak months of its winter heating season to reduce the possibility of interruptions of service to customers at a time when they are using natural gas to heat their homes and businesses. Second, the weather in many parts of the state is not conducive to construction projects in January, February, and even into parts of March. Third, NMGC uses the first quarter and parts of the second quarter of each year to primarily plan projects, obtain permitting and rights-of-way, and perform any inspections or studies required by law. As a result, NMGC traditionally incurs most of its capital expenditures during the third and fourth quarters of each calendar year.

III. CAPITAL IMPROVEMENT PROJECTS

Q. PLEASE DESCRIBE WHAT INFORMATION NMGC IS PRESENTING IN THIS CASE TO SUPPORT THE CAPITAL PROJECTS.

A. Details of the projects included in the Company's Capital Investment Program can be found in the following exhibits:

- NMGC Exhibit TCB-2 – Distribution Blankets. This exhibit contains summaries of blankets that include many smaller projects, budget figures are displayed by cost type;
- NMGC Exhibit TCB-3 – Distribution Specifics. This exhibit contains detailed project information including project justifications, estimated completion dates, alternatives reviewed, and budget figures by cost type for specific distribution projects;
- NMGC Exhibit TCB-4 – General Plant. This exhibit contains summaries of blankets that include many smaller projects, budget figures are displayed by cost type;
- NMGC Exhibit TCB-5 – IT&T. This exhibit contains summaries of blankets that include many smaller IT&T projects. In this exhibit, budget figures are displayed by cost type;
- NMGC Exhibit TCB-6 – Large Unique Projects. This exhibit contains detailed project information including project justifications, estimated completion dates, alternatives reviewed, and budget figures by cost type for several large unique projects;
- NMGC Exhibit TCB-7 – Transmission Blankets. This exhibit contains summaries of blankets that include many smaller transmission projects. In this exhibit, budget figures are displayed by cost type; and

- NMGC Exhibit TCB-8 – Transmission Specifics. This exhibit contains detailed project information including project justifications, estimated completion dates, alternatives reviewed, and budget figures by cost type.
- NMGC Exhibit TCB-9 – Provides the annual capital investment in projects required by NMGC's integrity management plan, by category, forecasted for 2022 and 2023.

Q. ARE THE CAPITAL PROJECTS DESCRIBED IN YOUR TESTIMONY AND NMGC EXHIBITS TCB - 2 THROUGH TCB - 9 NECESSARY FOR NMGC TO MEET ITS SERVICE OBLIGATION?

A. Yes. These projects and their associated costs are necessary for NMGC to continue to provide adequate, efficient, and reasonable service to its customers. In addition, many of these projects are required for regulatory compliance purposes. These projects have been carefully vetted and prioritized as detailed in the budgeting process described above and are necessary and the associated costs are reasonable.

Q. PLEASE EXPLAIN IF NMGC IS SEEKING ADDITIONAL RECOVERY FOR PROJECTS THAT WENT INTO SERVICE IN 2020 AND 2021.

A. No. NMGC is not seeking additional recovery for capital investments made in 2020 and 2021. The timing of this rate case requires a base period and at least one period that covers 2020 and 2021. The capital investments for 2020 and 2021 are already

accounted for in NMGC's current rates, and NMGC is not seeking double recovery of those investments. As such, my testimony will focus on the new capital investments that will be made in 2022 and 2023, which are driving, in part, the revenue deficiency in this rate case.

Q. IN NMGC'S LAST RATE CASE, NMPRC CASE NO. 19-00317-UT, YOU TESTIFIED THAT NMGC'S CAPITAL INVESTMENT PROGRAM WOULD AVERAGE APPROXIMATELY $90 MILLION PER YEAR FOR SEVERAL YEARS, INCLUDING 2022 AND 2023. DO YOU STILL ANTICIPATE THIS SPENDING LEVEL FOR 2022 AND 2023?

A. No. NMGC's capital investment program is now forecasted to be approximately $121.7 million in 2022 and $123.1 million in 2023.

Q. WHAT IS DRIVING THE INCREASE IN CAPITAL INVESTMENT SPENDING OVER WHAT WAS ANTICIPATED IN THE LAST RATE CASE?

A. The primary driver for the increase in capital investment are projects related to the Company's integrity management plan. NMGC is doubling its spending on integrity management plan-related projects compared to what it previously anticipated; these additional projects are making NMGC's system safer and more

reliable, which helps ensure the continued provision of gas utility service to our customers.

A. Significant and Large Capital Projects Directly Under My Direction

Q. PLEASE DESCRIBE THE SIGNIFICANT AND LARGE CAPITAL PROJECTS UNDER YOUR DIRECTION THAT NMGC IS SEEKING RECOVERY OF IN THIS CASE.

A. NMGC's significant individual capital projects, included in the case are described below:

i. Pecos Valley Mainline Replacement: This project will increase system supply and reliability in Southern New Mexico;

ii. Potash Mainline Replacement: This project will increase reliability in Southern New Mexico;

iii. Clovis Mainline Replacement: This project will increase reliability in Eastern New Mexico; and

iv. Automated Meter Reading Device Expansion: This project will make NMGC's operations in multiple cities and towns more efficient and allow NMGC employees to spend more time providing services to customers.

Q. WHY IS NMGC UNDERTAKING THESE CAPITAL PROJECTS AT THIS TIME?

A. Many of these projects are driven by NMGC's integrity management program and NMGC's continuing drive to mitigate risks in its system.

i. Pecos Valley Mainline Replacement

Q. PLEASE DESCRIBE THE PECOS VALLEY MAINLINE.

A. The Pecos Valley Mainline is a ten-inch steel coated pipeline in Southeast New Mexico that brings gas from the interstate pipelines to the Distribution System in the City of Carlsbad.

Q. PLEASE DESCRIBE WHY THE PECOS VALLEY MAINLINE IS BEING REPLACED.

A. There are two primary reasons NMGC is proposing to replace the Pecos Valley Mainline. First, the Pecos Valley Mainline was installed in the 1950s, and as such has been in service for close to 70 years. Because the Pecos Valley Mainline was constructed in the 1950s, it does not have traceable, verifiable, and complete pressure test and materials records that are now required by Federal regulations. NMGC analyzed the cost to perform the hydrostatic testing and material verification necessary to bring the Pecos Valley Mainline into conformance with Federal regulations, and that cost was approximately $5.3 million.

Second, steel pipelines from the 1950s tend to have a high carbon content in the steel, which makes the steel more prone to cracking. Pipes of this vintage also require additional inspection tools in order to comply with in-line inspection activities now required under Federal regulations.

NMGC has determined that replacing the Pecos Valley Mainline is the most appropriate step to take, especially given the cost to simply bring the line into compliance with current Federal regulations, and the heightened risk associated with possible cracks occurring on a mainline that supplies gas to customers in and around the City of Carlsbad. Moreover, by replacing the Pecos Valley Mainline, NMGC can utilize a higher grade pipeline material which will allow the pipeline to be safely operated at a higher pressure of approximately 720 pounds per square-inch, which will allow for future growth anticipated in the Carlsbad area.

Q. HOW MUCH WILL THE PECOS VALLEY MAINLINE REPLACEMENT PROJECT COST?

A. The cost of the project is projected to be approximately $11 million.

Q. WHEN WILL THE PECOS VALLEY MAINLINE REPLACEMENT PROJECT BE COMPLETED?

A. Construction is scheduled to be completed in 2022. Please see NMGC Exhibit TCB-6 for a forecast of expenditures.

ii. Potash Mainline Replacement

Q. PLEASE DESCRIBE THE POTASH MAINLINE.

A. The Potash Mainline is in Southeast New Mexico, and was originally constructed in the 1930s to serve the potash mines in the area. The Potash Mainline currently serves customers in the City of Loving and nearby potash mines, and helps reinforce NMGC's Permian system.

Q. WHY IS IT NECESSARY TO REPLACE THE POTASH MAINLINE?

A. The Potash Mainline has been in service for almost 90 years. Like the Pecos Valley Mainline, the Potash Mainline does not have traceable, verifiable, and complete pressure test and materials records that are now required by Federal regulations. Additionally, part of the Potash Mainline is constructed of four-inch bare steel main that incorporates lap-welds, which are no longer used in the industry. Because of the construction material and the lap-welds, the Potash Mainline will require more in line inspection equipment and more frequent inspections. However, because part of the line is only four inches in diameter, in line inspection cannot be performed

on the full line currently. This means that NMGC will need to completely replace all four-inch sections of the line with six-inch pipe, as well as make multiple station and block valve modifications that will allow for in line inspections.

After evaluating these challenges, and because NMGC will have to replace a portion of the Potash Mainline anyway, NMGC has decided to replace the entire Potash Mainline and bring it up to modern pipeline standards.

Q. HOW MUCH WILL THE REPLACEMENT OF THE POTASH MAINLINE COST?

A. The estimated cost of the project is approximately $5.5 million.

Q. WHEN WILL THE POTASH MAINLINE REPLACEMENT PROJECT BE COMPLETED?

A. We anticipate having the project completed in 2023. Please see NMGC Exhibit TCB-6 for a forecast of expenditures.

iii. <u>Clovis Mainline Replacement</u>

Q. PLEASE DESCRIBE THE CLOVIS MAINLINE.

A. The Clovis Mainline is a bare steel pipeline in the East-Central New Mexico and provides gas to customers in the City of Clovis since the 1930s. The Clovis

Mainline also delivers gas to the very high-pressure pipelines that serve customers in the City of Tucumcari and the City of Portales.

Q. WHY IS IT NECESSARY TO REPLACE THE CLOVIS MAINLINE?

A. The Clovis Mainline has been in service for almost 90 years. Like the Pecos Valley Mainline and the Potash Mainline, the Clovis Mainline does not have traceable, verifiable, and complete pressure test and materials records that are now required by Federal regulations. Additionally, like the Pecos Valley Mainline, the Clovis Mainline was constructed with steel that has a high carbon content, which makes the steel more prone to cracking. Pipes of this vintage also require additional inspection tools in order to comply with in-line inspection activities now required under Federal regulations.

After evaluating these challenges, NMGC decided to replace the entire Clovis Mainline and bring it up to modern pipeline standards. The replacement will occur in two phases. In the first phase, NMGC will replace approximately five miles of eight-inch mainline. In the second phase, NMGC will replace an additional three miles of eight-inch mainline ("Phase 2").

Q. WHEN WILL THE CLOVIS MAINLINE REPLACEMENT PROJECT BE COMPLETED?

A. We anticipate having Phase 1 of the project completed in 2023. Please see NMGC Exhibit TCB-6 for a forecast of expenditures.

Phase 2 of the project will be completed in 2024, and NMGC is not seeking rate base recovery of Phase 2 in this case.

Q. HOW MUCH WILL THE REPLACEMENT OF THE CLOVIS MAINLINE COST?

A. The estimated cost of phase 1 of the project is approximately $4.2 million.

iv. <u>Continued Installation of Automated Meter Reading Devices</u>

Q. WHAT ARE AUTOMATED METER READING DEVICES ("AMR")?

A. AMRs are meters that electronically record usage, and automatically transmit that usage data to NMGC.

Q. DOES NMGC ALREADY USE AMR DEVICES?

A. Yes. NMGC first requested recovery of capital investments related to AMRs in 2011 in NMPRC Case No. 11-00042-UT. As a result of that case, NMGC installed AMRs primarily in the Albuquerque and Santa Fe metro areas. These investments

have been serving customers for years, and have been in NMGC's rate base for NMGC's last three rate cases.

NMGC is continuing to expand its AMR program to the rest of NMGC's service territory, and has already installed AMRs in a large part of Farmington.

Q. WHAT ARE THE BENEFITS OF AMR TECHNOLOGY?

A. AMRs help the Company's operations representatives read meters in a safer and more efficient manner. Instead of walking up to and accessing each meter at a residence or business, which are sometimes located behind walls or near animals, NMGC employees will be able to drive down streets and collect data from the AMRs electronically, which is much faster than manually reading and recording data from every meter. This will allow NMGC's operations personnel to focus on providing services to customers and fixing leaks in the system. Additionally, AMR's improve meter reading accuracy, which reduces errors and improves customers' experience with NMGC.

Q. WHERE IS NMGC INSTALLING AMR DEVICES DURING THE TIME FRAME OF THIS RATE CASE?

A. NMGC plans to complete installation of AMRs in the Farmington by the end of 2022. NMGC plans to install AMRs in Lovington, Clovis, Portales, Tucumcari,

Clayton, and Carlsbad in 2022 as well. In 2023, NMGC plans to install AMRs in Alamogordo, Silver City, T or C, and Anthony. Over 2022 and 2023, NMGC plans to install over 80,000 AMRs.

Q. WHAT IS THE TOTAL CAPITAL INVESTMENT FOR AMR DEVICES FROM 2022 THROUGH 2023?

A. NMGC anticipates investing approximately $17.6 million on the expansion of AMRs from 2022 through 2023.

B. Integrity Management Capital Investments

Q. PLEASE EXPLAIN THE TERMS "INTEGRITY MANAGEMENT", AND "INTEGRITY MANAGEMENT PROGRAM" AS THEY ARE COMMONLY USED IN THE NATURAL GAS INDUSTRY.

A. Integrity management generally refers to the process of identifying, evaluating, preventing, inspecting, and addressing potential or direct threats to reduce both the likelihood and consequence of incidents such as pipeline failure.

The terms "Integrity Management Program" and "Integrity Management Plan," often shortened to just "IMP," commonly identify a utility's plans and programs designed to identify and mitigate the greatest relative risks within a gas distribution and transmission system.

Q. ARE THERE GOVERNMENTAL AGENCIES THAT REGULATE PIPELINE SAFETY AND INTEGRITY MANAGEMENT PROGRAMS?

A. Yes, there are regulators responsible for pipeline safety at both the federal and state levels. The United States Department of Transportation ("DOT") is responsible for pipeline safety, including promulgating regulations related to pipeline safety. The Pipeline and Hazardous Materials Safety Administration ("PHMSA"), an agency within DOT, is responsible for the regulation of natural gas transmission and distribution pipeline safety.

The Commission's Pipeline Safety Bureau ("PSB") is responsible for administering the DOT's pipe-line related regulations and PHMSA's safety requirements within New Mexico. Thus, PSB has regulatory oversight of NMGC in relation to federal and state pipeline safety regulations and requirements, as well as any state-specific safety requirements.

Q. HAS DOT/PHMSA IMPLEMENTED ANY REGULATIONS RELATED TO TRANSMISSION AND DISTRIBUTION IMPS?

A. Yes. These regulations can be found in 49 CFR 192 Subpart O and Subpart P.

Q. PLEASE PROVIDE A BRIEF SUMMARY OF THE HISTORY OF FEDERAL REGULATION RELATED TO IMPS.

A. IMP related regulations have been adopted throughout the years. These programs are constantly evolving and are a combination of company and industry standards, and state and federal regulation. PHMSA started implementing rules related to regulation in 1994. That year, regulations were adopted that required all gas transmission pipeline constructed after 1994 be designed and constructed to accommodate the passage of instrumented internal inspection devices, or as commonly referred to in the natural gas industry – pigging. Pigging involves inserting a device that either cleans or conducts internal inspections of the pipeline as the gas flow pushes it through the pipeline. Every NMGC transmission pipeline constructed after 1994 is piggable.

In 2004, PHMSA issued new regulations requiring: 1) natural gas transmission pipeline operators develop and implement a transmission IMP and complete the baseline integrity assessment of its covered High Consequence Area ("HCA") segments by 2012, with reassessments every seven years; and 2) that any replacement gas transmission lines be designed and constructed to accommodate pigging. NMGC has fully complied with these requirements.

In 2009, PHMSA adopted regulations requiring operators of gas distribution pipelines to develop and implement IMPs to enhance safety by identifying and reducing pipeline integrity risks. The IMPs required by this rule are similar to those

required for gas transmission pipelines, but tailored to reflect the differences in distribution pipelines. The rule also requires operators to install excess flow valves on new and replaced residential service lines. NMGC is in compliance with these requirements.

Finally, in October 2019, PHMSA adopted new regulations which address integrity management requirements and other requirements by focusing on actions a natural gas pipeline operator must take to reconfirm the MAOP of previously untested natural gas transmission pipelines and pipelines lacking certain material or operational records. PHMSA also required periodic assessment of pipelines in populated areas not designated as "high consequence areas", reporting of exceedances of MAOPs on any pipeline, consideration of seismicity as a risk factor in integrity management, safety features on pigging launchers and receivers, and related recordkeeping provisions.

Q. HAS NMGC WORKED WITH PSB IN RELATION TO NMGC'S IMP?

A. Yes. The Company has kept PSB informed as to the creation of NMGC's IMP, the initial action items identified by the IMP, NMGC's implementation of the actions identified by the IMP, and any significant changes to the program.

In addition, PSB audits NMGC's IMP Plan every three years to ensure the IMP plan complies with PHMSA's regulations.

Q. PLEASE DESCRIBE THE COMPANY'S IMP AND ITS CURRENT MAIN OBJECTIVES.

A. NMGC's IMP Program is a combination of compliance with federal regulations and self-initiated programs designed to enhance the integrity and safety of the Company's system. As required by federal regulations, NMGC's IMP involves the evaluation of its Transmission and Distribution Systems to identify the highest relative risks on its systems and developing and executing a plan to achieve risk reduction in the system. The mitigation of the risks includes, but is not limited to, increased patrolling and monitoring, and gas system replacements/modifications. NMGC's IMP determines the best mitigation given the relative risk.

As discussed in my testimony in NMGC's last rate case, the Company has identified the following areas with the highest relative risk for inspection and mitigation activities as part of its IMP:

- replacement of legacy plastic pipe;
- replacement of legacy bare steel pipe;
- replacement of mechanically connected X-Trube services.
- sewer camera inspections to locate and eliminate sewer cross bores;

- reconfirmation of the MAOP of pipelines constructed prior to 1970 via hydrostatic testing or replacement;
- transmission system modifications required to make all transmission pipelines constructed prior to 1994 internal inspection capable;
- installation of remote shut-off valves to reduce the time to respond to an emergency; and
- verification of pipeline materials through cutouts of small portions of the pipelines and performing mechanical testing on the cutouts.

Q. PLEASE DESCRIBE IN GREATER DETAIL THE EIGHT CAPITAL IMPROVEMENT IMP PROJECTS YOU JUST LISTED.

A. I will discuss the eight capital improvement projects in the order I listed them above:

i. Replacement of Certain Legacy Plastic Pipe

NMGC currently has PVC[1] and ABS[2] plastic pipe in its Distribution System, mainly in the southern and eastern areas of the system. Installation of this legacy plastic pipe was completed before NMGC existed, and prior to the development of the federal pipeline safety regulations and in many cases was not installed with

[1] Polyvinyl Chloride
[2] Acrylonitrile Butadiene Styrene

location wire. The lack of location wire means that NMGC may have difficulty locating the pipe – both before excavation by a third party and in an emergency situation. Additionally, legacy plastic pipes tend to be thinner and are more easily damaged by third parties than modern plastic pipe material. Finally, these legacy plastic pipes are no longer used in the industry and repairing damaged sections often takes longer and is more difficult to perform.

As I noted in my testimony in NMPRC Case No. 19-00317-UT, NMGC plans to replace approximately 129 miles of PVC and ABS plastic pipe in 2022 and 2023, at a cost of approximately $14 million. This will result in the replacement of all PVC and ABS plastic pipe in NMGC's system by the end of 2023.

ii. Replacement of Legacy Bare Steel Pipe

This pipe was installed decades ago and lacks a protective coating which makes it difficult to provide effective cathodic protection. Without adequate cathodic protection, this pipe may be more susceptible to corrosion which could result in gas leakage. NMGC leak surveys the bare steel pipe in its system and, while it is currently operating safely, NMGC believes that it is prudent to be proactive and replace all bare steel pipe within its Distribution System.

NMGC anticipates investing approximately $5.8 million over the period of 2022 and 2023 to replace legacy bare steel pipe. At this level of activity, NMGC anticipates completely replacing all bare steel pipe in its system before the end of 2024.

iii. Replacement of X-Trube Services

X-Trube services are thin-wall steel tubing services installed in the 1960s and 1970s that were typically tied to the main with compression-style mechanical fittings instead of being welded. Because they contain compression fittings instead of welded joints, they tend to have higher instances of leaks when there is soil movement or other outside forces in the area.

NMGC's goal, with its IMP, is to mitigate and reduce risk, and replacing the X-Trube services will decrease system risk associated with mechanical couplings. Additionally, due to higher frequency leak survey requirements on X-Trube services with compression fittings, NMGC is incurring additional leak survey expenses. This extra expense is only necessary due to the compression fitting on X-Trube services, and will be reduced when the X-Trube services and their associated compression fittings are replaced.

Additionally, during the replacement of the X-Trube services and during the replacement of the services associated with legacy plastic pipe and bare steel main, the Company is able to make additional safety improvements to its system in a cost-effective manner. An example of this is the installation of excess flow valves ("EFV"). Because NMGC is already excavating facilities to replace X-Trube, legacy plastic, and bare steel main services, it is easy and very cost-effective for the Company to install the EFVs during the replacement process.

iv. Sewer Camera Inspections

NMGC occasionally faces situations where it is not practical to install gas pipeline using an open trench. In these instances, NMGC or its contractors bore a hole underground and insert pipe through the bore. At times, this process results in the unintentional intersection of a gas pipeline and a sewer line, which is called a cross-bore. A cross bore can result in a safety risk when a homeowner or plumber attempts repair work to a sewer line outside the premise using mechanical cleaning or "snake" machines. These machines could sever a gas line and cause a gas leak, which could result in a hazardous situation. Although not common, NMGC has found multiple cross bores in its system, all of which were remedied upon discovery.

As is being done throughout the country, NMGC is undertaking a program to perform sewer camera inspections to identify, address and repair instances where a gas line has

passed through or intersected with a sewer line. The inspection program covers all of NMGC's service areas and involves inserting cameras into the sewer line.

v. Transmission System Modifications

Before 1994 there was no requirement that gas transmission lines be designed and constructed to accept in-line inspection tools. As a result, all of NMGC's transmission systems constructed prior to 1994 were built in a way that does not allow for pigging. Consistent with NMGC's transmission IMP and PHMSA regulations, NMGC is making modifications to its transmission systems to allow for pigging activities.

Here is a good scenario to illustrate the issue: during the initial construction of a pipeline, the direction of the pipeline needs to change to avoid an upcoming obstacle. In such a scenario today, the pipe route would be designed to make a long gradual change of direction. Decades ago, the solution may have been to use a short radius 90-degree fitting in the pipe and make a more drastic change in direction. While a short radius fitting does not impede the flow of gas, it does make it impossible to use smart pigs to inspect the integrity of the pipe in those areas. Therefore, before NMGC may utilize smart pigs, it must identify and replace all fittings, valves, and other apparatus on the Transmission System that are not designed to accommodate smart pigs.

vi. Installation of Remote Shut-Off Valves

Current IMP regulations require preventative and mitigative measures to address the threats for each pipeline in a HCA to minimize the consequence of unintended releases of gas, to enhance public safety, and for environmental protection. NMGC installs remote shut-off capability on valves in the transmission systems to minimize the time to isolate a section of pipe. NMGC's long-term plan is to install remote shut-off valves ("RSVs") on over 151 valves as preventative and mitigative measures.

Additionally, PHMSA has introduced a Notice of Proposed Rulemaking, which will require NMGC to complete RSV installations on valves that protect HCAs within six years of publication of the rule. NMGC is already on track to meet this requirement if the provisions are adopted by PHMSA, as NMGC expects to have all necessary RSVs installed to protect HCAs by 2026.

vii. Perform Material Verification Cutouts

The PHMSA regulations require materials verification for all HCAs, Class 3 and Class 4 locations, and piggable moderate consequence areas ("MCAs"). This rule requires NMGC to perform one cutout for material testing per mile of pipeline for any pipelines that do not have records that are traceable, verifiable, and complete for materials and other properties such as diameter, wall thickness, yield strength,

ultimate tensile strength, and impact toughness. These records were not originally required before 1970. Approximately 55% of NMGC's transmission pipelines were installed prior to 1970 and NMGC estimates that 70% (or 38% of the total Transmission System) of those do not have traceable, verifiable, and complete records and will require cutouts and material testing.

viii. Hydrostatic Testing of Pipelines

The PHMSA regulations require pipeline operators such as NMGC to reconfirm the MAOP of existing pipelines that do not have pressure test records. Pressure testing of pipelines and retention of associated records were not required on pipelines constructed prior to 1970. As a consequence, approximately 38% of NMGC's pipelines do not have pressure test records. Thus, pipeline operators such as NMGC must now reconfirm the MAOP of many existing pipelines that were installed prior to 1970. PHMSA requires NMGC to reconfirm at least 50% of its pipelines without pressure test records by the end of 2027, and complete testing of all pipelines without pressure test records by 2034.

Hydrostastic Testing, also known as Hydro-Testing, is a process to assess pipeline integrity using water to pressure test the pipeline. Water is pumped into the pipeline and pumped up to a pressure that is a minimum of 1.5 times the operating pressure. The pressure is maintained and monitored for a minimum of eight hours to ensure

there are no defects. Hydro-Testing is the most economical method of reconfirming the MAOP of these pipelines.

Q. IN NMGC'S LAST RATE CASE YOU TESTIFIED THAT HYDROSTATIC TESTING OF PIPELINES WAS PRIMARILY AN O&M EXPENSE. WHY IS THIS NOW BEING TREATED AS A CAPITAL INVESTMENT?

A. When I testified in that case, the industry was still evaluating the new IMP regulations promulgated by PHMSA and assessing the ramifications of those regulations. In 2020, the Federal Energy Regulatory Commission ("FERC") issued accounting guidance to natural gas operators on how to properly account for the costs incurred due to hydrostatic testing. FERC determined that it is appropriate for utilities and natural gas pipeline operators to capitalize the costs incurred for hydrostatic testing on pre-1970 pipe. FERC reasoned that hydrostatic testing during installation of new pipelines is a capitalized expense, thus hydrostatic testing older pipelines serves the same purpose as testing new pipelines and should therefore be allowed to be capitalized. Based on this guidance from FERC, the standard practice in the natural gas industry is to account for hydrostatic testing as capital costs rather than O&M cost.

Q. IN TOTAL, HOW MUCH WILL NMGC INVEST IN IMP-RELATED CAPITAL IMPROVEMENTS IN 2022 AND 2023?

A. NMGC will invest approximately $35.2 million in 2022, and approximately $34.4 million in 2023 on IMP-related capital improvements. These amounts will be used and useful in 2022 and 2023, and therefore have been included in NMGC's projected rate base in 2023. Please see NMGC Exhibit TCB-9 for a breakdown of these costs.

Q. WHAT IS NMGC'S LONG-TERM PLAN FOR IMP-RELATED PROJECTS?

A. The purpose of an IMP is to constantly evaluate risks to NMGC's system and to take action to address those identified risks. As such, NMGC will be performing IMP projects for many years to come. As time goes by and certain projects are completed, new projects will likely be added to address risks to the system.

Q. DOES NMGC HAVE AN ESTIMATE OF THE IMP-RELATED CAPITAL COSTS ANTICIPATED AFTER 2023?

A. Yes. As can be seen from the table below, NMGC anticipates making significant capital investments related to IMP projects into the future.

Table 1 -- IMP Investments

	2024	2025	2026
Material Verification	$3,041,209	$3,615,073	$3,262,808
Hydrotesting	$1,747,601	$3,652,915	$1,991,892
Pipeline Replacements	$10,034,435	$7,232,815	$7,756,400
Transmission Modifications	$2,750,966	$6,152,541	$2,718,076
RSV	$397,465	$804,110	$717,991
Legacy Plastic	$169,959	$2,467,475	$4,089,815
Bare Main	-	-	-
Xtrube	$3,729,947	$4,099,658	$4,120,158
Total	$21,871,582	$28,024,587	$24,657,140

It is because of this continued spending that NMGC requests the Commission allow NMGC a way to begin recovering these safety-driven investments close to when they are made.

Q. NMGC WITNESS DANIEL P. YARDLEY DESCRIBES THE DETAILS OF NMGC'S PROPOSED IMP RECOVERY MECHANISM. FROM YOUR PERSPECTIVE, WHAT ARE THE BENEFITS OF AN IMP RECOVERY MECHANISM?

A. From my perspective, an IMP Recovery Mechanism will make implementing NMGC's IMP easier. With approval of the IMP Recovery Mechanism NMGC will be better able to plan and manage its IMP activities. Customers, the Commission, and the Company will benefit through improved communication and consistency in implementing the IMP; including information on what work is being performed and the cost of that work on an ongoing basis, rather than a review of the work NMGC has completed over a number of years.

Additionally, because the IMP program solely involves the identification and remediation of risks to NMGC's system and areas surrounding NMGC's facilities. NMGC is constantly evaluating these risks and may at times need to accelerate spending to address an identified risk. Because these evaluations are constantly being updated and spending on these items are not subject to levelized spending over a long period, with periods of increased and decreased spending depending on the risks identified, NMGC should not be penalized by addressing safety needs more quickly than predicted in a rate case filing and having to wait years to recover costs that are incurred due to Federal regulations and safety improvements.

Q. HOW WILL NMGC IMPLEMENT THE IMP RECOVERY MECHANISM?

A. First, I want to emphasize that NMGC is not seeking a general infrastructure recovery mechanism. NMGC's proposal is to limit the IMP Recovery Mechanism

to projects that are part of NMGC's IMP, which again is routinely audited by the Commission's PSB.

Second, NMGC is proposing to make an annual filing with the Commission which will provide the Commission and stakeholders with details on what IMP related-projects NMGC put into service the prior year as well as the IMP-related projects NMGC intends to pursue over the following year. Much like what occurs with NMGC's Weather Normalization Mechanism, NMGC's IMP Recovery Mechanism annual filing would be subject to a Commission hearing should Staff or any other party oppose NMGC's recovery of the costs NMGC identifies it is seeking to recover.

In this way, the Commission, Staff, and stakeholders will regularly be provided with all the information related to how NMGC is proceeding with its IMP projects and the amounts NMGC is spending.

Q. WILL NMGC CONTINUE THE PROJECTS CALLED FOR IN ITS INTEGRITY MANAGEMENT PROGRAM EVEN IF THE COMMISSION DOES NOT APPROVE THE IMP MECHANISM?

A. Yes. The actions in NMGC's IMP are required by PHMSA regulations. Moreover, as a prudent operator of a gas transmission and distribution system, NMGC will

make these improvements regardless of the method of recovery of the cost. Nevertheless, a reasonable and timely recovery mechanism for the costs incurred will facilitate our planning and operational efforts in this regard.

C. Other Important Capital Projects

i. GHG Reduction Equipment

Q. PLEASE DISCUSS THE INVESTMENTS THAT NMGC IS MAKING IN GHG EMISSIONS REDUCTION EQUIPMENT.

A. For the reasons described in NMGC Witness Weseen's testimony, NMGC is investing in equipment that will reduce GHG emissions, including:

- Mobile flare units;
- Trailer-mounted compressors;
- Re-piping all five of NMGC's compressor stations in order prevent flaring of methane during the starting process for each compressor; and
- A small scale hydrogen blending steam reformer unit and associated equipment which will allow NMGC to generate hydrogen from natural gas. This hydrogen will then be blended with natural gas in an isolated segment of NMGC's Distribution System.

Q. HOW MUCH WILL NMGC SPEND ON GHG EMISSION REDUCTION EQUIPMENT IN 2022 AND 2023?

A. NMGC will spend a total of approximately $5.2 million through 2023 on GHG emission reduction equipment, including equipment for hydrogen blending.

ii. Information Technology & Telecommunications ("IT&T")

Q. PLEASE DISCUSS THE INVESTMENTS THAT NMGC IS MAKING IN IT&T.

A. As discussed in greater detail in NMGC Witness DeCourcey's testimony, NMGC continues to invest in IT&T equipment and software that is necessary to provide safe and reliable utility service to our customers.

Several of the IT&T capital investments are being made to fulfill the engineering and operational needs of the Company. I provide an overview of the Company's engineering and operational needs and NMGC Witness DeCourcey describes how the IT&T solutions assist us.

Q. PLEASE DESCRIBE NMGC'S ENGINEERING AND OPERATION'S REASONS FOR WANTING TO UPGRADE ITS DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM SOFTWARE.

A. NMGC uses a geographic information system ("GIS") program to make determinations related to system risk for the Company's IMP. This model is cumbersome, takes specially trained individuals in NMGC's GIS Department to run, requires a full day to run each risk model variation, cannot integrate with other Company software, and produces results in long detailed spreadsheets.

NMGC needs a product that NMGC's distribution engineers can run on their own, that does not take a full day to run, and which can integrate with NMGC's capital investment software, C-55, in order to ensure that C-55 uses the same risk values for IMP projects as are produced by the IMP risk models. The software NMGC is purchasing meets all of these requirements.

Q. PLEASE DESCRIBE NMGC'S ENGINEERING AND OPERATION'S REASONS FOR PURCHASING INSPECTION MANAGER CAPITAL IMPROVEMENT PROJECT INITIATIVES SOFTWARE.

A. NMGC does not have a single electronic based system to record all of the inspection functions required by PHMSA. NMGC needs a program that will allow NMGC to schedule, assign, and track inspection activities such as leak surveys, inline inspection results, and emergency valve maintenance activities.

Q. PLEASE DESCRIBE NMGC'S ENGINEERING AND OPERATION'S REASONS FOR PURCHASING AN ELECTRONIC FIELD DATA COLLECTION PROGRAM.

A. Again, NMGC currently lacks a single electronic storage system for various activities performed in the field. Many of NMGC's field data records, such as cathodic protection inspection activities, are currently generated first on paper. These paper records are then turned in and have to be entered into NMGC's compliance records by hand.

NMGC requires a program that allows technicians to enter data electronically while still in the field. That data will then be seamlessly and automatically added to NMGC's compliance system records. This will be more efficient, timely, and will reduce errors due to transcription or lost hard copies of data.

Q. PLEASE DESCRIBE NMGC'S ENGINEERING AND OPERATION'S REASONS FOR UPGRADING ITS GIS MAPPING AND ANALYTICS TOOLS.

A. NMGC has an excellent GIS database which provides the location of all of NMGC's facilities across the state. However, the database currently provides little more than the location.

NMGC believes it makes sense to upgrade its database with new tools that will allow NMGC to not only identify the location of NMGC's facilities, but also contain additional information such as properties of the facilities, recent inspection data for the facilities, and the risk consequences for the facilities. Having this data in one program would be much more efficient and useful for NMGC personnel.

Q. PLEASE DESCRIBE NMGC'S ENGINEERING AND OPERATION'S REASONS FOR ADDING ADDITIONAL LEAK SURVEY UNITS.

A. NMGC is required by law to regularly inspect its pipelines for leaks. These inspections are commonly referred to in the industry as leak surveys. Leak surveys are an integral part of NMGC's activities as a prudent pipeline operator.

NMGC needs to add 2 ABB Mobile Guard leak survey units, which use laser technology to identify methane in the air around NMGC's facilities and provide accurate parts per billion information to NMGC during leak surveys. Moreover these units are equipped with anemometers and GPS location information, which allows NMGC to detect very small leaks faster than ever and accurately record the precise location of a leak so that NMGC's operations personnel can repair the leak in a timely manner.

Additionally, these units will allow NMGC to perform a leak survey on all mains and services annually rather than NMGC's current four-year cycle. This will result in faster identification and repair of leaks on NMGC's system.

Q. PLEASE DESCRIBE NMGC'S REASONS FOR UPGRADING ITS GAS MANAGEMENT PROGRAM.

A. Quorum is the software NMGC's gas supply group uses to schedule and administer the supply of gas in the Company's system for delivery to customers, to negotiate and set up gas supply contracts, and accounting for gas supply and transportation activities.

NMGC has been using Quorum for ten years. NMGC believes now is the time to evaluate other programs and upgrades to Quorum that may improve NMGC's gas supply operations and NMGC's interface with its transportation customers as well as the gas suppliers NMGC purchases gas from.

Q. HOW MUCH WILL NMGC SPEND ON IT&T MEASURES IN 2022 AND 2023?

A. NMGC anticipates investing a total of approximately $20 million on IT&T measures in 2022 and 2023. Again, NMGC Witness DeCourcey, the Company's

Director of IT&T services, provides more information on IT&T investments in his testimony.

iii. Physical Security Initiatives

Q. PLEASE DISCUSS THE INVESTMENTS THAT NMGC IS MAKING IN FACILITY AND ASSET SECURITY.

A. As discussed in greater detail in NMGC Witness Wilcox's testimony, NMGC continues to invest in hardening its physical facilities in order to protect NMGC's employees, facilities, assets, and operations.

Q. HOW MUCH WILL NMGC SPEND ON PHYSICAL SECURITY MEASURES IN 2022 AND 2023?

A. NMGC anticipates spending a total of approximately $2.5 million on physical security investments between 2022 and 2023.

D. Significant New Rights-of-Way and Renewals

Q. ARE THERE ANY SIGNIFICANT RIGHTS-OF-WAY RENEWALS IN 2022 AND 2023?

A. Yes. There are two significant rights-of-way renewals that will occur during the linkage and test periods. First, as part of the Brazos Mainline acquisition that occurred in 2020, the Company has reviewed all rights-of-way that were transferred

from the prior owner to NMGC that allow for the continued location and operation of the Brazos Mainline. NMGC has determined that it will need to pursue new or additional rights-of-way for this pipeline. More specifically, NMGC has determined it will need: 1) to acquire a long-term right-of-way across the lands of the Jicarilla Apache Nation; 2) acquire long-term rights-of-way from individual landowners located between Dulce, NM and Chama, NM; and 3) obtain rights-of-way across certain parcels of land belonging to the State of New Mexico.

Second, NMGC anticipates renewing multiple rights-of-way necessary for NMGC's Albuquerque Mainline transmission system. The Albuquerque Mainline is a critical component of NMGC's Northern System. The Albuquerque Mainline primarily transports gas produced in the San Juan Basin in the Four Corners area, approximately 180 miles to Albuquerque. Many of the rights-of-way for the Albuquerque Mainline are not permanent, and must be renewed in order for NMGC to continue to operate this pipeline and supply customers with natural gas.

Q. IS NMGC FORECASTING THESE RIGHTS-OF-WAY RENEWAL COSTS IN THIS RATE CASE?

A. Yes. NMGC forecasts estimated rights-of-way costs based on recent right-of-way agreements, which represent and incorporate current market and economic conditions.

NMGC also has rights-of-way across Native American-owned land. These rights-of-way are unique, as they involve a sovereign entity, and NMGC lacks the authority to condemn these rights-of-way. Additionally, because each Native American Pueblo or Nation is unique, there is no market which NMGC can look to for comparable values. Thus, NMGC estimates these costs based on its experience and regular communication with each Native American Pueblo or Nation. NMGC has identified those rights-of-way that will be renewed in 2022 and 2023 in 630 Schedules H-7.1 and H-7.2.

Q. HAS NMGC SUPPORTED ITS ESTIMATED COSTS FOR RENEWED RIGHTS-OF-WAY?

A. Yes. NMGC has significant experience in securing necessary rights-of-way across private lands, government-owned lands, and Native American lands. We have a proven process that we follow for new rights-of-way and renewed rights-of-way that we apply with respect to securing rights-of-way. Based on NMGC's experience with acquiring and renewing rights-of-way, we have bona fide market data about the likely costs that will be incurred. All of these factors are considered in NMGC's cost estimates presented in this case, and form a reliable basis for use in establishing a cost of service for these expenses. From the settlements completed to date, NMGC's payments are consistent with the overall estimate. Please see 630

Schedules H-7.1 and H-7.2 for a detailed description of the rights-of-way expenses, amortizations, and adjustments included in this case.

Q. ARE THE RIGHTS-OF-WAY NECESSARY FOR THE CONTINUED PROVISION OF NATURAL GAS SERVICE TO NMGC'S CUSTOMERS?

A. Yes. The facilities located on the subject rights-of-way are vital components of NMGC's system and are critical to providing reliable service to NMGC customers throughout New Mexico. For each of the new and renewed rights-of-way NMGC is including in this case, there is no cost-comparable alternative to the rights-of-way across Native American-owned lands. The expenses associated with these rights-of-way are necessary for NMGC to install and maintain NMGC's facilities on these properties and prevent NMGC from incurring costly relocations of these facilities and having to build around Native American nations.

IV. O&M EXPENSES

Q. WHAT O&M COSTS ARE YOU ADDRESSING IN YOUR TESTIMONY?

A. My testimony is limited to O&M costs in the Linkage Periods and Future Test Year due to IMP-related activities, and new employee positions in the departments I am responsible for.

A. IMP-Related O&M

Q. WHAT ARE THE TYPICAL O&M EXPENDITURES ASSOCIATED WITH NMGC'S TRANSMISSION AND DISTRIBUTION SYSTEM?

A. O&M expenses for NMGC's Transmission and Distribution Systems include the labor expenses of NMGC employees and contract workers that directly support the functions that monitor and control the system; schedule the maintenance and repairs of the stations, lines and equipment; IMPs; and perform system reliability, interconnection and engineering cost studies.

Q. WHAT ARE THE INCREASED O&M COSTS RELATED TO THE COMPANY'S IMP?

A. As discussed in greater detail earlier in my testimony, federal regulations require NMGC to broaden the scope of its IMP activities. Specific to O&M costs, NMGC will need to increase its inline inspection activities.

Q. PLEASE DESCRIBE NMGC'S O&M EXPENDITURES RELATED TO INLINE INSPECTION ACTIVITIES.

A. As part of NMGC's IMP activities, the Company performs inline inspections on its Transmission System. An inline inspection tool, also known as a smart pig, is a device that is run through NMGC's Transmission System to identify anomalies in transmission pipelines. This type of inspection is also commonly referred to as

"pigging" in the natural gas industry. These inspections help to identify system needs and replacements to facilitate safe and reliable service. The Base Period (July 1, 2020 through June 30, 2021) O&M expenditures related to pigging activities are $1.9 million

Q. IS NMGC PROPOSING A CHANGE TO ITS EXPECTED LEVEL OF INLINE INSPECTION O&M EXPENSES?

A. Yes. NMGC estimates the O&M related to inline activities in 2022 and 2023 will be approximately $2.3 million and $2.6 million respectively. Please see NMGC Exhibit TCB-10 for more detail related to these expenses.

B. New Employee Positions

Q. PLEASE IDENTIFY THE EMPLOYEES THAT YOU ARE ADDING IN YOUR AREA(S) OF RESPONSIBILITY.

A. By 2023, NMGC intends to add seven employees in the following departments that I am responsible for: Pipeline Safety Management, Safety, Environmental, and Gas Supply. These employees will be in the following areas:

- **Pipeline Safety Management** – NMGC is adding two Compliance Project Managers. These Compliance Project Managers will track key performance indicators and compile data, which indicate the overall performance of NMGC's programs. This allows NMGC to evaluate the success of its

programs and continually strive for improvement. They will then review and interpret the metrics and advise the Company on trends and issues and as to what course of action to pursue, including making recommendations for improvements.

- **Safety** - NMGC is adding three employees: 1) a Safety Trainer, 2) a Safety Analyst, and 3) a Safety Coordinator.
- **Environmental** – NMGC is adding one employee to support its Rights-of-Way and Environmental Departments.
- **Gas Supply** - NMGC is proposing to add one gas supply manager to its gas supply group. The manager will help oversee the Company's gas acquisitions, transportation services, market orientation, and hedging programs. This includes purchasing natural gas, scheduling delivery, managing interstate transportation, and managing storage. The manager will also be responsible for numerous filings and regulatory compliance activities such as establishing the Company's gas cost factor and creating the Annual Supply Plan.

Q. WHY IS NMGC ADDING THESE EMPLOYEES?

A. These employees are necessary for NMGC to continue to provide safe and reliable service to its customers while complying with recent additional regulatory requirements.

Q. PLEASE DISCUSS THE NEED FOR TWO COMPLIANCE PROJECT MANAGERS.

A. The Compliance Project Managers are being added to oversee the implementation and administration of NMGC's Pipeline Safety Management System ("PSMS"). A PSMS is an overarching system that addresses ways for a pipeline operator to continually operate and improve safety performance. It includes instituting practices for risk management, operational controls, incident response, reporting and communication, quality assurance, operator qualifications, and performance evaluation.

PSMSs are guided by the American Petroleum Institute's PSMS standard, ANSI/API Recommended Practice 1173 ("RD 1173"). RD 1173 was developed in response to an oil spill incident in Michigan that resulted in significant environmental damage. Although PHMSA has not yet required operators to comply with RD 1173, PHMSA strongly recommends that operators follow and implement it. The National Transportation Safety Board has also endorsed RD 1173.

As a prudent pipeline operator, NMGC has created a PSMS and has started implementing it. NMGC requires additional personnel to fully implement the PSMS. The Compliance Project Managers will help provide NMGC with the

additional resources needed for this effort and help NMGC to develop a more efficient plan for pipeline safety.

Q. PLEASE DISCUSS THE NEED FOR THE THREE SAFETY EMPLOYEES.

A. NMGC is committed to the safe delivery of natural gas to customers and a safe working environment for employees. As I discussed earlier in my testimony, NMGC's capital investment program and O&M program have increased in recent years due to federal regulations related to IMPs. This increased construction and maintenance activity creates additional need for safety personnel to train and monitor activities of NMGC construction crews as well as the monitoring the third-party contractors NMGC retains for this specialized work. The additional employees will allow the Safety Department to focus more on verification and auditing of projects and to dedicate a resource to support safety training, data analytics, and reporting. Adding the proposed safety employees will help ensure that NMGC can continue to keep its employees and contractors safe and to provide safe and reliable natural gas services to its customers in a cost effective and timely manner.

Q. PLEASE DISCUSS THE ADDITIONAL EMPLOYEE IN NMGC'S RIGHTS-OF-WAY AND ENVIRONMENTAL DEPARTMENTS.

A. Many of the projects NMGC undertakes require NMGC to obtain either short-term or long-term access to land, as well as to obtain certain environmental permits from governmental entities. With the increased IMP-related construction and maintenance activity I previously identified, NMGC needs an additional rights-of-way and environmental permitting resource. Without this additional assistance, NMGC's current personnel may face delays in being able to obtain rights-of-way and environmental permits, and important projects could be delayed.

Q. PLEASE DISCUSS THE ADDITIONAL EMPLOYEE IN NMGC'S GAS SUPPLY DEPARTMENT.

A. NMGC does not currently have a manager in its Gas Supply Department. Thus, many of the Gas Supply team members' questions and issues must be addressed directly by the Director of Gas Supply. As a result, the Director of Gas Supply spends a significant amount of his time on day-to-day gas acquisition activities. It would be beneficial to hire a manager to address many of the day-to-day gas acquisition issues that arise, and thus allow the Director of Gas Supply to focus more on long-term gas supply solutions and evaluating potential alternative supply sources. A manager would also ensure a managerial-level resource is available in the Gas Supply Department even when the Director is not available.

V. DISCOUNTED TRANSPORTATION RATES

Q. DOES NMGC CURRENTLY OFFER ANY DISCOUNTED RATES FOR TRANSPORTATION SERVICES?

A. Yes, NMGC currently offers 10 discounted rates for transportation services. NMGC Exhibit TCB-11 summarizes all of NMGC's existing discounted transportation rates in effect at the time of this filing. This exhibit includes information about the purpose of the discount and any other information related to the discounted rate.

Q. HOW IS NMGC ABLE TO DISCOUNT ITS TRANSPORTATION RATES BELOW THE RATES ESTABLISHED IN ITS RATE NO. 70 FOR TRANSPORTATION SERVICE?

A. Rule 660 - specifically Rule 660.10(F)(8) NMAC - allows gas utilities to offer discounted transportation rates to transportation customers (both on-system and off-system) that are lower than the approved tariff rates, in order to compete for the customer's business. These rates must be offered on a non-discriminatory basis, and must be above the variable cost of service provided.

Q. PLEASE DESCRIBE THE CIRCUMSTANCES UNDER WHICH NMGC WILL OFFER A DISCOUNTED TRANSPORTATION SERVICE RATE.

A. As noted above, pursuant to Rule 660, NMGC may offer discounted transportation rates, on a non-discriminatory basis, in order to compete for the business of a transportation customer or an end-user. The circumstances under which NMGC will offer a discount to compete for a transportation customer's or end-user's business are:

- A customer is in such economic or business circumstances that a discount may keep the customer's business in operation. This may be characterized as a discount to "retain load."
- A customer has a viable alternative to purchasing transportation service from NMGC, including through the construction of a customer-owned delivery system for natural gas or through the use of an alternative pipeline connection. This may be characterized as a discount to "prevent bypass."
- A customer requires a discount in order to bring new business onto NMGC's system. This new business may include new transportation volumes altogether, or it may involve incremental volumes above the levels that the customer already acquires from NMGC. This may be characterized as a discount to "increase throughput."

Q. HAVE NMGC'S CRITERIA FOR NEGOTIATING A DISCOUNTED RATE FOR TRANSPORTATION SERVICE CHANGED SINCE NMGC'S LAST RATE CASE?

A. No.

Q. PLEASE DESCRIBE HOW NMGC AND THE CUSTOMER ARRIVE AT A DISCOUNTED TRANSPORTATION SERVICE RATE.

A. The parties negotiate the discounted transportation rate and terms of service at arm's length, based upon their own knowledge and understanding of the situation. NMGC attempts to negotiate a rate as close to the tariff rate as possible, yet still prevent a bypass, retain the customer's existing load, or increase volume throughput.

Q. WHAT IS THE BENEFIT TO NMGC'S OTHER CUSTOMERS OF SECURING BUSINESS AT THESE DISCOUNTED RATES?

A. Customers to whom service is provided at discounted transportation rates make important contributions to fixed costs, which benefit other customers. Any revenue that is received from discounted transportation rate customers above the variable cost of providing the service helps to reduce the revenue requirement in a general rate case and, therefore, reduces the revenue that would otherwise be needed from other customers to cover the Company's costs of providing service.

Discounted transportation revenue contributes approximately $2.7 million of revenue credits to NMGC's customers in the Base Period. See 630 Schedule I-2. If NMGC did not enter into discounted transportation rate arrangements with some or all of these customers, these revenue contributions would be reduced or lost entirely. In such a situation, the Company's revenue requirement would increase by the amount of the lost revenue from discounted transportation services. Thus, by retaining customers using discounted transportation rates, revenues collected from such customers benefit all customers in the form of lower rates.

Q. WERE DISCOUNTS PROVIDED TO ANY TRANSPORTATION CUSTOMER LOWER THAN THE SYSTEM AVERAGE VARIABLE COST?

A. No.

Q. HAS NMGC IMPLEMENTED ANY NEW DISCOUNTED RATES FOR TRANSPORTATION SERVICE SINCE ITS LAST RATE CASE?

A. NMGC anticipates modifying its discounted transportation contract with Holly Frontier Refining Marketing, LLC ("Holly Frontier") in Spring of 2022 to add additional volume to Holly Frontier's petroleum refinery in located in Eddy County, New Mexico. NMGC will charge Holly Frontier a rate of $0.125 per MMBtu for 8,000 MMBtus above NMGC's current 20,000 MMBtus per day.

NMGC is providing this discount because Holly Frontier has viable alternative sources of energy.

NMGC also revised its Rate No. 741, which is a discounted transportation contract entered into with the City of Farmington for the Animas River and Bluffview Power Plants. There were two primary revisions to this rate: 1) adding a fixed volume commitment, and 2) increasing the rate charged to the customer to $0.25 per MMBtu.

Q. ARE EACH OF THE DISCOUNTED TRANSPORTATION RATES IN EFFECT AT THE TIME OF THIS FILING JUST AND REASONABLE, AND DO THEY BENEFIT OTHER CUSTOMERS ON NMGC'S SYSTEM?

A. Yes.

Q. IS NMGC PLANNING TO CONTINUE ALL OF THESE RATES THROUGH THE FUTURE TEST YEAR?

A. No. NMGC expects all of the discounted transportation rates to be in effect through the Future Test year except for one: First Revised Rate No. 819 – Transportation to Ciniza Refinery. The Ciniza Refinery has ceased operations and NMGC is no longer transporting gas to this delivery point. NMGC respectfully requests permission to cancel Rate No. 819 as it is no longer necessary.

VI. COMPRESSOR TARIFF

Q. IS THE COMPANY PROPOSING A NEW RATE TARIFF IN THIS CASE?

A. Yes, we are seeking to create a new rate class to address service to compressor facilities owned by third-parties in the oil and natural gas exploration and processing industries.

Q. WHAT IS THE COMPANY PROPOSING FOR ITS COMPRESSOR FACILITY RATE?

A. As discussed in greater detail in the testimony of NMGC Witness Daniel P. Yardley, NMGC is proposing to charge all customers with compressor facilities, a single rate of $0.0251 per therm, and an access fee of $250.00 per month. NMGC Witness Yardley provides the reasoning for this charge.

Q. WHY IS THE COMPANY PROPOSING A NEW RATE FOR COMPRESSOR FACILITIES?

A. Compression facilities utilize a large amount of gas, and are important customers for NMGC. Additionally, these facilities are owned by gas exploration and production companies, many of which are responsible for producing the processed gas NMGC uses to serve its customers.

While all of the compressor facility customers would likely be able to qualify for a discounted transportation rate under the terms of Rule 660, there are a sufficient number of these customers that providing different rates to different customers taking the exact same service just does not make sense. As there are 36 customers taking service for compression facilities within NMGC's service territory, all of whom are taking the same type of service from NMGC, NMGC wishes to ensure that all of these customers are treated similarly and are paying the same rate for the service they receive from NMGC.

Q. DO CUSTOMERS WITH COMPRESSOR FACILITIES HAVE TO BE CUSTOMERS OF NMGC?

A. No. Customers with compressor facilities have many options for energy, including electricity or simply opting to burn unprocessed natural gas. Again, compressor facilities are owned by gas explorers and producers. The compressor facilities are used to operate gathering systems that transport unprocessed gas from well heads to natural gas processing facilities. Thus, these customers could very easily opt to bypass NMGC completely and burn some of the unprocessed gas flowing through the gathering systems. In such a case, NMGC would lose significant throughput, and NMGC would be forced to charge its remaining customers higher rates to make up for the loss.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.