Daniel P. Yardley

Direct Testimony and Exhibits

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. 78	)	**Case No. 19-00317-UT**
NEW MEXICO GAS COMPANY, INC.	)	
Applicant.	)	

DIRECT TESTIMONY AND EXHIBITS

OF

DANIEL P. YARDLEY

December 23, 2019

DIRECT TESTIMONY OF
DANIEL P. YARDLEY
NMPRC CASE NO. 19-00317-UT

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Daniel P. Yardley, and my business address is 2409 Providence Hills Drive, Matthews, North Carolina 28105.

Q. IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am a Principal of Yardley Associates, a consulting firm specializing in rate and regulatory matters in the natural gas utility industry.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL WORK EXPERIENCE.

A. I received a Bachelor of Science Degree in Electrical Engineering from the Massachusetts Institute of Technology in 1988. For the last 30 years I have been employed as a consultant to the natural gas industry. During this period, I have directed or participated in numerous consulting assignments on behalf of local distribution companies ("LDCs"). I have extensive experience analyzing and developing LDC and gas pipeline cost allocation studies, rate design studies, and in other tariff matters, including the development of revenue adjustment and cost recovery mechanisms. I have also performed gas supply planning analyses and financial evaluation analyses on behalf of LDCs.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of New Mexico Gas Company, Inc. ("NMGC" or the "Company").

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION ("NMPRC" OR THE "COMMISSION")?

A. Yes. I testified in NMGC's prior rate case before the Commission in Case No. 18-00038-UT. I have also testified on numerous occasions before other state utility commissions, the Federal Energy Regulatory Commission, and the Canada Energy Regulator on a variety of rate and regulatory topics. The subject matters addressed in these proceedings include cost allocation, service design, rate design, revenue decoupling, cost recovery mechanisms and tariff design. A summary of my experience and previous expert testimony in other jurisdictions is provided as NMGC Exhibit DPY-1, which is attached to my direct testimony.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?

A. I have been asked by NMGC to evaluate the manner in which it recovers its base revenue requirements from customers, and to propose changes that are consistent with the nature of the services it provides, as well as important rate design objectives. My testimony addresses several topics associated with fair recovery of costs the Company incurs to provide safe and reliable service to its customers which include:

(1) the derivation of new base rates and charges for distribution and transmission services that fairly apportion the Company's revenue requirement among customer classes through appropriate charges to customers. The new charges are based on appropriate rate design considerations and reflect the results of the Company's fully allocated cost of service ("FACOS") study, which I

present in my testimony. The FACOS provides an assessment of the Company's existing rates relative to the costs it incurs to provide service to different types of customers.

(2) the development of an Integrity Management Program Cost Recovery Mechanism ("IMP Mechanism"). The IMP Mechanism is designed to support NMGC's need to accelerate investment in replacement of specific categories of infrastructure and upgrade certain existing infrastructure consistent with maintaining safe and reliable operations that address material factors affecting the Company's ability to recover its costs under traditional base rates.

(4) the design of a facility charge and service terms and conditions that would allow customers to contract for compressed natural gas ("CNG") at Company-owned CNG refueling stations.

Q. PLEASE SUMMARIZE YOUR FINDINGS.

A. The following five findings and recommendations are supported through my direct testimony:

(1) **NMGC's current base rate structures for most classes recover a substantial proportion of fixed costs through variable charges:** The vast majority of NMGC's costs recovered through base rates are fixed. Only 43 percent of the Company's costs are recovered through fixed charges creating

a dichotomy between the manner in which NMGC incurs costs and the manner in which it seeks to recover costs from customers.

(2) **NMGC's recently-implemented Weather Normalization Adjustment ("WNA") Mechanism is an essential first step toward an innovative rate design consistent with many of the Company's peer LDCs:** The need to achieve revenue stability and support infrastructure investments have led to important changes in rate design in jurisdictions across the United States. The WNA normalizes margins attributable to variations in weather offering important benefits to the Company and its customers.

(3) **The proposed IMP Mechanism provides for timely recovery of targeted integrity management replacement activity associated with NMGC's Integrity Management Program ("IMP"):** The accelerating need to replace specified categories of aging infrastructure are appropriately addressed through a cost recovery mechanism that provides for timely recovery of associated investments. The proposed cost recovery mechanism benefits the Company and its customers by promoting the timely recovery of IMP costs associated with necessary safety and reliability investments while moderating rate impacts to customers.

(4) **NMGC's rate design proposals contribute to fairness in pricing across and within rate classes:** The apportionment of the proposed revenue increase among classes reduces interclass subsidies while maintaining

acceptable bill impacts. Further, moderate increases to monthly fixed charges, where appropriate, ensure that the recovery of class revenue requirements gradually moves towards cost-based levels.

(5) **The proposed CNG Station Investment and Station Operation charges provide a means for the Company to construct and operate CNG stations on behalf of individual customers:** The conversion of fleets to CNG offers important environmental and economic benefits to New Mexico businesses. The new optional provisions of the CNG vehicle refueling tariff allow customers to acquire the benefits of refueling infrastructure without being responsible for station construction and operation.

Q. ARE YOU SUPPORTING ANY EXHIBITS THAT ACCOMPANY YOUR DIRECT TESTIMONY?

A. Yes. I am sponsoring the following exhibits, each of which will be explained later in my testimony:

- NMGC Exhibit DPY-1: Curriculum Vitae;
- NMGC Exhibit DPY-2: Pro Forma IMP Mechanism Tariff;
- NMGC Exhibit DPY-3: NARUC Resolution Encouraging Natural Gas Line Investment and the Expedited Replacement of High-Risk Distribution Mains and Service Lines;
- NMGC Exhibit DPY-4: Infrastructure Cost Recovery Mechanisms for 50 Largest LDCs;

- NMGC Exhibit DPY-5: Illustrative IMP Mechanism Calculations;
- NMGC Exhibit DPY-6: NMGC Proposed Billing Determinants;
- NMGC Exhibit DPY-7: FACOS Results;
- NMGC Exhibit DPY-8: Allocation of NMGC Proposed Revenue Requirements to Base Rates;
- NMGC Exhibit DPY-9: Existing and Proposed Base Rates and Revenues; and
- NMGC Exhibit DPY-10: Residential and Small Volume General Service Bill Impact.

Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?

A. In Section II of this testimony I discuss NMGC's rate design goals. In Section III, I set forth the proposed IMP Mechanism the Company is proposing. In Section IV, I discuss the billing determinants in this case. In Section V, I describe the Company's FACOS and associated results. In Section VI, I describe the proposed base rates. Finally, in Section VII, I discuss the derivation of new charges associated with Company-owned CNG vehicle refueling stations.

II. NEW MEXICO GAS COMPANY RATE DESIGN GOALS

Q. WHAT PRINCIPLES GUIDE THE DEVELOPMENT OF THE RATE AND RECOVERY MECHANISMS YOU PRESENT IN YOUR DIRECT TESTIMONY?

A. The overall rate design approach as well as the specific proposals I recommend seek to achieve the following six traditional regulatory goals for rate design and cost recovery:

(1) **Fairness** – Fairness is accomplished through pricing services based on the underlying cost. Fairness is important in many respects including, (i) between the Company and its customers, (ii) across rate classes served by NMGC, and (iii) among customers taking service under a single rate schedule.

(2) **Not Discriminatory** – Avoiding undue discrimination requires rates that do not grant an unreasonable preference or subject an unreasonable disadvantage to any customer or group of customers.

(3) **Revenue Stability** – Revenue stability means that the Company's base rate revenues are more predictable in view of future uncertainties. As customer usage patterns have become less certain, improved revenue stability through rate design takes on greater importance as a way of mitigating the increased revenue risks to customers and the Company associated with such unpredictable consumption patterns.

(4) **Moderation** – Moderation allows for the implementation of price changes over time to ensure that customers are not exposed to dramatic price changes all at once.

(5) **Simplicity** – Simplicity means a rate structure that is easy for customers to understand and straightforward to administer.

(6) **Energy Efficiency** – Energy efficiency as a goal is the alignment of rate design with objectives to promote reduced energy consumption by consumers.

Q. ARE THESE THE SAME RATE DESIGN PRINCIPLES OUTLINED IN NMGC'S LAST BASE RATE CASE?

A. The first five principles are carried forward from the prior base rate case and remain important to achieving an appropriate rate design. The sixth principle, which pertains to energy efficiency, is new and reflects new emphases in the State of New Mexico's energy policy goals. This principle comes into play in this case and I will discuss it later in my testimony.

Q. PLEASE DESCRIBE NMGC'S CURRENT RATE DESIGN.

A. The Company's current rate structure relies extensively on variable charges to recover fixed costs, while the rates for customers include a combination of fixed monthly charges and throughput-based or variable charges. Typically, over half of the Company's base revenues are derived from the variable charge components and are directly linked to customer usage patterns. Base revenues, sometimes referred to as margin revenues, are revenues received through base rates that recover a utility's cost of service, excluding purchased gas or other tracked costs. An LDC's cost of service includes the revenue requirements associated with constructing, operating and maintaining natural gas facilities in a safe and reliable manner, all of which are considered fixed costs.

Q. IS IT POSSIBLE TO MAKE A HIGH-LEVEL ASSESSMENT OF NMGC'S EXISTING RATE STRUCTURE IN RELATION TO THE GOALS YOU DESCRIBE ABOVE?

A. Yes. Under current rates, base revenues from variable charges account for 57 percent of the Company's total base revenue recoveries. This highlights a significant conflict between how the Company incurs costs and how these costs are recovered from customers. NMGC's rate structure continues a traditional throughput-based rate design that directly links utility financial benefits with customer usage. In this respect, NMGC's rate structure follows an approach that used to be quite prevalent in the industry.

Recently, shifting industry fundamentals have led to the adoption of changes throughout the U.S. to resolve the inherent conflicts of a throughput-based rate structure. The adoption of NMGC's Weather Normalization Adjustment ("WNA") mechanism in the last rate case, which adjusts base revenue recoveries for variations in temperature, was an important step in remedying NMGC's revenue stability concerns attributable to variations in weather that are beyond the ability of the Company or its customers to influence or control. Although there is limited actual experience under NMGC's WNA mechanism, the WNA mechanism introduced an important element of revenue stability for NMGC and its customers that is important to continue.

While NMGC considered requesting a revenue decoupling mechanism in this case, practical considerations make it reasonable to delay adoption of such a mechanism. The Company feels it is desirable to obtain actual experience with the WNA before proposing

a full revenue decoupling mechanism. For this reason, the Company is not proposing a revenue decoupling mechanism in this proceeding.

At the same time, NMGC continues to make significant non-revenue producing capital investments to maintain safety and reliability without any associated cost recovery mechanism. While no rate structure perfectly meets all of the outlined goals, adoption of an integrity management recovery mechanism as described in the next section of this testimony, would further align NMGC with its peers.

III. INTEGRITY MANAGEMENT PROGRAM COST RECOVERY MECHANISM

Q. WHY IS NMGC PROPOSING A SEPARATE RECOVERY MECHANISM ASSOCIATED WITH INTEGRITY MANAGEMENT INVESTMENTS?

A. As described in detail by NMGC Witness Tom C. Bullard, NMGC, like the majority of its peer LDCs, faces increasing integrity management-related requirements and the associated need to replace or modernize some older elements of distribution infrastructure. NMGC is undertaking significant investments to replace existing legacy bare steel pipe, legacy plastic pipe, x-trube services, line inspections for potential cross-bores and to install remote shut-off valves and upgrade the inspection capability of portions of its transmission facilities. The associated costs are necessary to maintain safe and reliable service, yet there are no incremental revenues associated with these integrity management activities. This poses a challenge for LDCs, like NMGC, and for policymakers because of the need for timely and effective cost recovery of the Company's growing integrity management needs.

Based on my work with other LDCs and their stakeholders working on these challenges, I believe that a targeted cost recovery mechanism is appropriate for NMGC. In fact, many other jurisdictions have adopted targeted cost recovery mechanisms that allow LDCs to recover the costs of infrastructure replacement and safety enhancements in between rate cases. Many of these programs contribute to enhanced opportunities for communication among the LDC and stakeholders regarding critical safety-related operating needs. Typically, these mechanisms reflect the specific needs of the LDC and focus on replacing legacy facilities that represent integrity management concerns.

Q. PLEASE PROVIDE AN OVERVIEW OF THE GENERAL BENEFITS OF COST RECOVERY APPROACHES FOR RECOVERY OF ACCELERATED FACILITY REPLACEMENT PROGRAMS.

A. Cost recovery mechanisms address the regulatory lag and earnings attrition concerns associated with base rate recovery by explicitly recognizing the heightened focus on pipeline safety, the contribution of pipeline replacement efforts to improved safety and reliability, and the challenges to timely cost recovery attributable to large-scale investments in non-revenue producing facilities. Alternative approaches support the increased capital requirements of replacing and enhancing legacy infrastructure, while preserving the fundamental elements of the traditional regulatory compact.

Each cost recovery mechanism reflects the unique operational circumstances of the LDC and the specific underlying approach to rate regulation of the jurisdiction. These various

recovery mechanisms share many desirable outcomes related to efforts to address safety and reliability concerns associated with elements of distribution systems including:

- reflecting accelerated investment in infrastructure replacement and enhancement to achieve benefits more rapidly;
- providing appropriate, timely and effective regulatory oversight of LDC initiatives to replace and upgrade important infrastructure; and
- allowing LDCs to reduce investment costs through broad scale, multi-year commitments that lead to maximum efficiency in managing workflow, reduced outside contractor costs, and better coordination with municipalities.

Q. PLEASE DESCRIBE THE SPECIFIC COST RECOVERY MECHANISM THAT NMGC IS PROPOSING TO HELP IT TIMELY RECOVER CAPITAL INFRASTRUCTURE COSTS RELATED TO INTEGRITY MANAGEMENT.

A. The proposed IMP Mechanism is a rate rider that reflects the revenue requirements associated with the areas of targeted replacement and facility enhancement needs associated with the Company's current IMP as described by NMGC Witness Bullard. The rate rider will reflect actual capital investments placed in service and include revenue requirements associated with depreciation expense, property taxes, return and income taxes. The mechanism emulates traditional base rate treatment of the investment costs provided for in New Mexico. The total revenue requirements will be allocated among rate

classes on the basis of projected annual base revenues so that each rate class receives an equivalent percentage revenue responsibility under the mechanism.

Q. WHAT IS THE PROCESS FOR DETERMINING THE ANNUAL RATE ADJUSTMENT UNDER THE PROPOSED IMP MECHANISM?

A. NMGC will file with the Commission on or before March 1st of each year for approval to change the cost recovery rate effective with Cycle 1 bills for the billing month of June. The proposed rate adjustment will reflect actual integrity management investments for the previous calendar year.

The Company will calculate the annual revenue requirements associated with integrity management investments consistent with the manner that the revenue requirements for the Company's other rate base investments are reflected in base rates. Specifically, depreciation expense and return are calculated based upon the net plant investment at the rates approved in the most recent base rate case and income taxes are applied at currently effective rates in order to determine revenue requirements to be incorporated into the rate adjustment.

Q. HAVE YOU DEVELOPED TARIFF TERMS AND CONDITIONS ASSOCIATED WITH THE IMP MECHANISM?

A. Yes. NMGC Exhibit DPY-2 is a pro forma tariff reflecting the proposed IMP Mechanism.

Q. HOW DOES THE PROPOSED IMP MECHANISM COMPLEMENT NMGC'S PLAN TO ADDRESS THE INTEGRITY MANAGEMENT CHALLENGES IT FACES?

A. The replacement program represents a prudent course of action as explained by NMGC Witness Bullard. The program will result in considerable capital investments that are non-revenue producing. The proposed IMP Mechanism applicable to these discrete facility replacement efforts addresses the need for timely recovery for the substantial investments to be made by the Company. The cost recovery mechanism adjusts base rates annually for investment costs, and is a straightforward means of addressing the cost recovery challenges to substantial integrity management investments.

Q. PLEASE EXPLAIN WHY TRADITIONAL BASE RATE CASE RECOVERY IS NOT APPROPRIATE FOR THE RECOVERY OF COSTS ATTRIBUTABLE TO NMGC'S INTEGRITY MANAGEMENT PROGRAM.

A. NMGC's integrity management program investments are non-revenue producing and will not contribute incremental base rate revenues, nor will the investments lead to an immediate or significant reduction in operations and maintenance costs. Relying on traditional base rate cases does not provide for timely recovery needed to support this level of integrity management investment and leads to earnings attrition.

One method of avoiding earnings attrition under these circumstances would be to file frequent, potentially annual, rate cases with the Commission. Frequent rate case filings

associated with a distinct, known and reviewable cost is an inefficient use of the base rate case process, requires analysis of all aspects of a utility's service, and adds to customer costs.

Q. PLEASE EXPLAIN WHY THE DEPRECIATION EXPENSE ALLOWANCE INCORPORATED IN RATES DOES NOT PROVIDE FUNDING FOR REPLACING EXISTING INFRASTRUCTURE UNDER NMGC'S INTEGRITY MANAGEMENT PROGRAM.

A. The depreciation allowance included in base rates represents the return of NMGC's capital investment made over time, up to the end of the test year in its last rate case. The level of the depreciation allowance is primarily a function of the nominal cost of all facilities at the time of investment and the expected facility life. Due to inflationary effects and improvements in piping technologies, the replacement costs exceed original costs per mile by a factor of ten to fifteen-fold.

Q. HAS THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONS ("NARUC") CONSIDERED THE IMPORTANCE OF COST RECOVERY TO EFFECTIVE REPLACEMENT OF AGING NATURAL GAS FACILITIES?

A. Yes. The NARUC Board of Directors adopted a *Resolution Encouraging Natural Gas Line Investment and the Expedited Replacement of High-Risk Distribution Mains and Service Lines* in July 2013. This resolution encouraged regulators and industry

stakeholders to consider programs and cost recovery mechanisms to replace vulnerable pipeline facilities as quickly as possible. The resolution also encouraged regulatory commissions to adopt rate mechanisms that would accelerate the modernization, replacement, and expansion of natural gas pipeline systems. A copy of this resolution is attached as NMGC Exhibit DPY-3. Additionally, NARUC and the Department of Energy recently entered into a partnership focused on natural gas infrastructure modernization issues. Among the issues considered by this partnership is the potential impediments to needed natural gas infrastructure replacement programs, including timely cost recovery for LDCs.

Q. HAS THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION ("PHMSA") WEIGHED IN ON THE IMPORTANCE OF COST RECOVERY TO INFRASTRUCTURE REPLACEMENT EFFORTS?

A. Yes. PHMSA, the agency within the U.S. Department of Transportation responsible for pipeline safety, mandates many requirements related to the safe operation of both natural gas transmission and distribution facilities and networks. A significant emphasis of recent initiatives calling on pipeline operators to take more aggressive steps to replace existing infrastructure is the recognition that cost recovery mechanisms are necessary to facilitate needed accelerated investments in replacement infrastructure. PHMSA reiterated and expanded on the role of cost recovery mechanisms in meeting the nation's pipeline replacement needs in a white paper summarizing cost recovery approaches. Specifically, PHMSA provided information to state utility regulators regarding replacement programs

and cost recovery approaches implemented throughout the U.S. as an important component of these more recent initiatives.

Q. IS THE COMPANY'S IMP MECHANISM PROPOSAL CONSISTENT WITH TRENDS ACROSS THE U.S.?

A. Yes. According to information compiled by the American Gas Association ("AGA"), state regulators in a total of 38 states have approved cost recovery mechanisms that provide for alternative cost recovery approaches for the replacement of aging utility infrastructure. The trend toward use of non-base rate approaches to cost recovery for aging infrastructure demonstrates broad support for these approaches throughout the gas distribution industry in the United States.

Q. HAVE YOU EXAMINED THE DEGREE TO WHICH THE LARGEST 50 LDCS IN THE U.S. BY RESIDENTIAL CUSTOMER COUNT OPERATE WITH INFRASTRUCTURE COST RECOVERY MECHANISMS?

A. Yes. NMGC Exhibit DPY-4 indicates which of the largest LDCs in the U.S. by residential customer count have infrastructure cost recovery mechanisms based on AGA information I compiled. Forty-one of the LDCs representing 83% of the residential customers operate with such a mechanism. Additionally, some of the remaining LDCs operate under multi-year rate plans or under biennial rate case requirements with future test years that provide many of the same benefits of a separate cost recovery mechanism through timely recovery of integrity management costs.

Q. DOES NMGC EXHIBIT DPY-7 INCLUDE LDCS WITHIN NMGC WITNESS ADRIEN M. MCKENZIE'S GAS GROUP?

A. Yes. Each LDC that is operated by a member of NMGC Witness McKenzie's Gas Group that appears on NMGC Exhibit DPY-7 has an infrastructure cost recovery mechanism. Approval of NMGC's proposed IMP Mechanism would put it on equal footing with these other companies with respect to recovery of infrastructure costs outside of a base rate case.

Q. WILL THE NEW COST RECOVERY MECHANISM REDUCE THE NEED FOR FUTURE RATE CASES?

A. The IMP Mechanism will not eliminate the need for future rate cases. The cost recovery mechanism focuses on one aspect of the Company's overall costs. As such, the mechanism complements rather than substitutes for base rate cases. Specifically, the mechanism removes an impediment to the efficient and proactive investment in non-revenue producing facilities to replace legacy bare steel and legacy plastic pipe facilities. The proposal does not affect the need for base rate cases in any other respect, or alter the overall benefits of the base rate case ratemaking approach to recovering utility operating costs from customers. Rather, the IMP Mechanism provides a means of bridging the gap associated with traditional base rate case recovery for important non-revenue producing investments that occur over a defined period of time.

Q. WHAT SAFEGUARDS PREVENT THE COMPANY FROM SPENDING MORE THAN IS NECESSARY ON THE INTEGRITY MANAGEMENT REPLACEMENTS?

A. Some opponents to integrity management cost recovery mechanisms suggest that the cost recovery mechanism provides an incentive to "gold-plate" the necessary infrastructure. The annual filing procedures that are explained later in my testimony provide the Commission and other interested stakeholders with more frequent opportunities to evaluate the success of the Company in achieving the benefits that the program is intended to produce. The Commission will also be provided with the opportunity to consider the Company's construction practices and plans to ensure that over-spending is not occurring. The existence of a cost recovery mechanism does not diminish NMGC's incentive to complete the necessary facility investments in an operationally prudent and cost-efficient manner in order to maintain reasonably-priced services. Even so, the Company's proposed recovery caps provide an additional safeguard that the mechanism will not contribute to over-spending.

Q. WHAT ARE THE RECOVERY CAPS ASSOCIATED WITH NMGC'S PROPOSED IMP MECHANISM?

A. As an additional means of ensuring that the mechanism remains limited, the Company is proposing two different caps that establish limits on cost recovery. The first is an annual cap on the change in revenue requirements eligible for recovery under the rider equal to one percent of normalized base revenues. Based on test period base revenues, the annual

cap on the change in revenue requirements eligible for recovery through the IMP Mechanism would be $2.0 million. Any level of revenue requirements that exceed the one percent cap will not be recoverable until a future year, subject to the operation of the annual cap in the following year. The second recovery limitation is a cumulative cap equal to six percent of base distribution and transmission revenues. Any revenue requirements that exceed the cumulative cap will not be recoverable through the mechanism, but will be included in the revenue requirements proposed by the Company in a subsequent base rate case. These recovery limitations reflect the investment needs of the Company's integrity management program over the near term and provide assurances that the cost recovery mechanism properly matches these requirements.

Q. HAVE YOU PREPARED A SAMPLE CALCULATION OF THE IMP MECHANISM ADJUSTMENT FACTOR?

A. Yes, a sample calculation is provided as NMGC Exhibit DPY-5. Page one of this exhibit shows the transmission and distribution revenue requirements based on $5 million of investment in eligible transmission facilities and $10 million of investment in eligible distribution facilities. The combined revenue requirements are $1.9 million, which are compared to the annual and cumulative cost recovery caps to determine whether the full amount is recoverable, which it is in this example. Page two of NMGC Exhibit DPY-5 provides a calculation of the percentage of firm base revenues by rate class and the allocation of the IMP Mechanism revenue requirements to rate classes. Lastly, page three of NMGC Exhibit DPY-5 provides the projected annual billing determinants and rate for

each rate class. Since the rate is determined separately for transmission service based upon transmission revenue requirements and for distribution service based upon distribution revenue requirements, the IMP Mechanism rate calculations are repeated for transmission service and distribution service. A customer that receives both transmission and distribution service from the Company would pay the combined charge set forth in Column (d) on page three of NMGC Exhibit DPY-5.

Q. PLEASE PROVIDE AN ESTIMATE OF THE RATE IMPACTS OF THE ELIGIBLE PROGRAM COSTS TO BE RECOVERED THROUGH THE PROPOSED COST RECOVERY MECHANISM.

A. Based upon a typical residential customer with annual consumption of approximately 600 therms, a $15 million investment in integrity management costs during the first year of the program would lead to an annual bill impact of approximately $2.70 or an average $0.23 per month.

Q. WHAT HAPPENS TO THE RATE BASE INVESTMENTS RECOVERED THROUGH THE IMP MECHANISM WHEN NMGC FILES A RATE CASE?

A. If NMGC files a base rate case, the filing will reflect a transfer of the associated rate base from the IMP Mechanism to base rates including net plant, accumulated depreciation and accumulated deferred income taxes. Upon the implementation of new base rates, the IMP Mechanism recovery factor would be reset to zero and recovery of any future eligible

investments would occur prospectively. Changes to return and depreciation rates would be reflected in the IMP Mechanism on a prospective basis as well.

Q. PLEASE DISCUSS WHY THE COMPANY'S PROPOSED INTEGRITY MANAGEMENT PROGRAM COST RECOVERY MECHANISM IS A PERMISSIBLE EXCEPTION TO THE COMMISSION'S NORMAL POLICY DISCOURAGING PIECEMEAL RATEMAKING.

A. The costs attributable to the Company's integrity management program are material, known, and incremental in nature. The IMP Mechanism aligns the cost recovery approach to these investments with the public safety imperative driving industry-wide replacement and facility enhancement actions across the U.S. Like cost recovery mechanisms adopted elsewhere, the proposed IMP Mechanism provides for a proper review of the operational activities and plans associated with the needed investments and leads to gradual rate changes associated with the investments. Even with the institution of a recovery mechanism for the targeted integrity management investments, the vast majority of NMGC investment costs and expenses will continue to be under traditional base rate recovery. For all of these reasons, the proposed cost recovery mechanism including the safeguards I describe represents a needed and appropriate ratemaking approach to the Company's integrity management program investment costs and is more effective and cost-efficient than more frequent base rate cases.

Q. IS THE COMPANY PROPOSING ANY HEARING PROCEDURES ASSOCIATED WITH ANNUAL CHANGES IN THE IMP MECHANISM RATE?

A. Yes. NMGC proposes to utilize a similar hearing procedure as exists for the WNA. Specifically, the Company shall provide notice and opportunity for hearing to all persons on the official Certificate of Service in this case for the purpose of establishing the IMP Mechanism rate to be used over the twelve-month period beginning with each Cycle 1 for the month of June of each year. These procedures were agreed to among the parties to the Stipulation resolving the Company's previous base rate case in Case No. 18-00038-UT.

IV. NMGC FORECAST BILLING DETERMINANTS

Q. PLEASE DESCRIBE THE COMPANY'S EXISTING RATE TARIFFS.

A. Customers eligibility for a particular NMGC tariff rate is established first on the basis of sector, *i.e.*, whether a customer is residential, commercial or industrial. All residential customers are served under the Rate No. 10 - Residential Services ("Rate 10"). NMGC offers three standard commercial and industrial ("C&I") rates based on customer size. These are (i) the Rate No. 54 - Small Volume - General Service ("Rate 54"), for C&I customers with less than 200,000 therms per year, (ii) the Rate No. 56 - Medium Volume - General Service ("Rate 56"), for C&I customers whose use is from 200,000 up to 2,000,000 annual therms, and (iii) the Rate No. 58 - Large Volume-General Service ("Rate 58") for C&I customers whose annual use is 2,000,000 therms or greater. Over 99 percent of NMGC customers receive service pursuant to the Rate 10 Residential Rate or one of the three standard general service C&I rates. Other NMGC customers receive service under

one of the Company's seven other tariff rates offered to customers with specific end-uses or other qualifying criteria. These are the Rate No. 30 - Irrigation Service ("Rate 30"), the Rate No. 31 - Water and Sewage Pumping ("Rate 31"), the Rate No. 35 - Cogeneration Service ("Rate 35"), the Rate No. 37 - Gas Air Conditioning ("Rate 37"), the Rate 39 - Compressed Natural Gas Vehicle Fuel ("Rate 39"), the Rate No. 61 - Sale for Resale ("Rate 61"), and the Rate No. 114 - District Energy System Service ("Rate 114"). Lastly, the Company provides transportation service to any customer desiring to purchase their gas supply from a third-party supplier pursuant to the Rate No. 70 - Transportation Service ("Rate 70"). Rate 70 incorporates the underlying base rate charges for the other NMGC tariff rates that customers are otherwise eligible for in addition to other rates and terms that apply to transportation service.

Q. WHAT RATES AND CHARGES ARE INCORPORATED INTO THE RATE 10 - RESIDENTIAL RATE?

A. The existing rate design for residential customers includes two types of base rate charges that are intended to recover NMGC's non-gas revenue requirements. Rate 10 Residential Rate base rates consist of an $11.57[1] monthly access fee and a flat usage or throughput charge that is $0.2295 per therm. The flat usage charge is comprised of a functional charge of $0.0634 for transmission service and $0.1661 per therm for distribution service. Access fees are applied per customer per month and distribution and transmission charges are

[1] The Rate 10 Residential monthly access fee will increase to $11.65 effective Cycle 1 of August 2020 pursuant to the terms of settlement of NMGC's previous base rate case.

applied to each customer's monthly therm usage. Under this rate structure, all residential customers pay a monthly minimum amount to NMGC equal to the access fee, regardless of their monthly usage. The rate design also results in customers paying higher amounts as their consumption increases due to the per-therm distribution and transmission charges. The distribution and transmission charges are considered variable charges because all of the associated revenues are linked to customer usage or throughput.

Q. DO THE C&I RATE TARIFFS EMPLOY THE SAME TYPE OF RATE DESIGN?

A. Yes. All of NMGC's tariffs employ the same form of rate design incorporating fixed access fees and variable transmission and distribution charges.

Q. ARE THERE SEPARATE CHARGES FOR GAS SUPPLY?

A. Yes. Sales customers that purchase their gas supply from NMGC pay a volumetric Purchase Gas Adjustment Charge for gas supply pursuant to Rate Rider No. 4. The Rate Rider No. 4 Cost of Gas rate recovers the direct costs of purchased gas and upstream pipeline capacity and storage resources necessary to ensure firm delivery to customers throughout the year, and is adjusted monthly to track changes in the delivered cost of gas supply.

Other customers are transportation-only customers, and pay NMGC to deliver gas supply that they have purchased from various third-party suppliers that may offer competitive pricing or other terms. The gas supply price for a firm transportation customer is negotiated

in a competitive marketplace between the customer and the third-party supplier. Transportation customers also have the option of returning to sales service at any point in the future, subject to availability of capacity and certain notice requirements.

Q. DID THE COMPANY DEVELOP A FORECAST OF BILLING DETERMINANTS FOR THE TEST PERIOD?

A. Yes. NMGC retained Concentric Energy Advisors ("Concentric") to assist with preparation of this rate case. One of the tasks performed by Concentric was the development of test period billing determinants used to develop test period revenues and the proposed rates.

Q. WHAT STEPS WERE NECESSARY TO PREPARE THE FORECAST OF BILLING DETERMINANTS?

A. The first step in the process is the compilation of monthly base period data for each rate class. Next the base period data were adjusted in order to yield normalized usage patterns, customer counts, and associated revenues. A forecast of change in customers and usage was developed and applied to the adjusted base period information in order to yield projected customers, throughput, and revenues for the test period and for the two linkage periods.

Q. PLEASE DESCRIBE THE ADJUSTMENTS NECESSARY TO CALCULATE THE ADJUSTED BASE PERIOD DATA?

A. General ledger base period customer counts and throughput were each adjusted. The customer counts were adjusted to reflect the impacts of any customer migrations that took place during the base period as well as the impact of the 2019 annual review. Throughput volumes were adjusted first to calendarize the data compiled from monthly billed information. Throughput data were then adjusted for the impacts of customer migrations as well as to normalize for weather variances. The weather normalization was performed separately for each location. The adjusted customer counts and throughput were relied upon to calculate adjusted calendar revenues for the base period.

Q. WHAT METHOD WAS USED TO FORECAST CUSTOMER GROWTH FOR THE TEST PERIOD?

A. A five year trend of changes in customer counts was examined and used to forecast customer growth, maintaining seasonality in customer counts were appropriate.

Q. WHAT METHOD WAS USED TO FORECAST THROUGHPUT FOR THE TEST PERIOD?

A. The projected forecast of peak day growth was used as the basis for escalating throughput. The forecast reflects variances in expected growth by location.

Q. PLEASE DESCRIBE THE RESULTING FORECAST OF TEST PERIOD BILLING DETERMINANTS AND REVENUES.

A. Test period billing determinants and revenues for calendar year 2021 are provided as NMGC Exhibit DPY-6 by rate class. The test period revenues reflect the base rates that will be effective during 2021, including the rate change that will occur in August 2020 pursuant to the approved stipulation in Case No. 18-00038-UT.

V. FULLY ALLOCATED COST OF SERVICE STUDY

Q. WHAT IS THE PURPOSE OF THE NMGC FACOS YOU ARE SPONSORING?

A. NMGC is proposing to update existing rates in connection with a proposed increase in base rate revenue requirements. A FACOS assesses the reasonableness of existing prices, and guides the development of price changes. Whereas the Company's revenue requirement schedules accompanying its base rate filing establish the aggregate revenue change required to maintain just and reasonable rates, the FACOS seeks to establish the revenue change required for each individual rate schedule that together represent the revenue change that NMGC is requesting. A FACOS is necessary to determine the cost responsibility for each customer class because virtually all of the Company's costs are common and are incurred to serve many classes of customers collectively.

The FACOS establishes measures of the total investment and operating costs incurred to serve each customer class, establishing class-specific total revenue

requirements. The class-specific revenue requirements are compared with class revenues in order to establish class income and rate of return on investment. The class-specific rates of return are used to guide the apportionment of the base rate increase among all of NMGC's customer classes in conjunction with the development of proposed rates. Although the FACOS is not the only factor relied upon to design rates, it is an invaluable guide to ensuring that the process is fair and reasonable.

Q. WHAT PRINCIPLE GUIDES THE DEVELOPMENT OF THE FACOS?

A. The primary principle that guides the FACOS process is that of cost causation. Each step in the development of the FACOS is consistent with the factors that drive or contribute to the incurrence of costs on the NMGC system. For example, the principle of cost causation requires that the costs incurred by the Company for investment in meters be apportioned to classes on the basis of the number of customers in each class multiplied by the corresponding average unit cost per meter for the class.

Q. WHICH CLASSES OF CUSTOMERS ARE INCLUDED IN THE FACOS?

A. The FACOS includes the following 11 customer groups: Rate 10, Rate 30, Rate 31, Rate 37, Rate 39, Rate 54, Rate 56, Rate 58, Rate 61, Rate 70, and Rate 114. For purposes of the FACOS, sales and transportation customers are grouped together within the FACOS. There are presently no customers taking service pursuant to the Rate 35 tariff. Because there are no customers presently taking service under this rate, it is not included in the FACOS.

Q. WHAT ARE THE PRIMARY DATA SOURCES RELIED UPON TO COMPLETE THE FACOS?

A. The primary data sources fall in two general categories: data related to the establishment of the total cost of service, and data used as the basis for allocating the total cost of service among customer classes. The total cost of service or revenue requirement data utilized in the FACOS are taken from schedules supporting NMGC's base rate application in this proceeding. The Company's test period forecasts of customers, throughput and revenues by class discussed earlier in my testimony are used as allocation bases for several categories of costs. The remaining allocation data are derived from special studies of facility or operating costs. All of the data utilized to establish total revenue requirements in the FACOS correspond to two time periods. The first time period is the Adjusted Base Period, which is the twelve-months ending June 2019. The second time period is Calendar Year 2021, which is the Future Test Year for establishing revised NMGC base rates.

Q. PLEASE SUMMARIZE THE RESULTS OF THE FACOS.

A. The primary results from the FACOS are the rate of return by class as compared to the requested rate of return of 7.35%. The eleven rate classes studied in the FACOS can be divided into three groups based on the rate of return. The first group is comprised of Rate 30 and Rate 31, which indicates rates of return at present rates that are more than twice the requested return. The second group is comprised of Rate 10 and Rate 54, which indicates rates of return that are somewhat below the requested return. The last group is all

remaining customer classes whose rates of return at present rates are well below the requested return. Table 1 provides a summary of the FACOS rate of return by class.

Table 1

NMGC FACOS
Rate of Return by Class

Rate Schedule	FACOS Rate of Return	Unitized
Rate 10 - Residential	6.05%	0.82
Rate 30 - Irrigation Service	18.00%	2.45
Rate 31 - Water and Sewer Pumping Service	23.98%	3.26
Rate 37 - Gas Air Conditioning Service	(4.49%)	(0.61)
Rate 39 - Compressed Natural Gas Vehicle Fuel	(2.26%)	(0.31)
Rate 54 - Small General Service	6.18%	0.84
Rate 56 - Medium General Service	4.43%	0.60
Rate 58 - Large General Service	3.07%	0.42
Rate 61 - Sales for Resale Service	(6.97%)	(0.95)
Rate 70 - Off-System Transportation	(4.03%)	(0.55)
Rate 114 - District Energy System Service	4.06%	0.55
Overall	7.35%	1.00

NMGC Exhibit DPY-7 presents detailed results of the FACOS.

Q. WHAT ARE THE IMPLICATIONS OF THE FACOS RESULTS FOR THE PROPOSED RATE DESIGN?

A. The FACOS rates of return at present rates presented in Table 1 demonstrate that class-differentiated base revenue increases are appropriate with Rate 10 and Rate 54 requiring moderate increases and Rate 37, Rate 39, Rate 56, Rate 58, Rate 61, Rate 70 and Rate 114 requiring the largest base revenue increases in order to move the rates of return for all rates closer to parity.

VI. PROPOSED BASE RATES

Q. HOW DID YOU DEVELOP THE CLASS-BY-CLASS REVENUE REQUIREMENTS?

A. The class-by-class base revenue requirements were developed by first comparing the existing base revenues to the base revenue requirements indicated by the results of the FACOS. This comparison is presented in NNMGC Exhibit DPY-8 with the differences shown in Column D. The values in Column D of this exhibit indicate the change in base revenues that would be needed to yield equalized rates of return. However, as reflected in Column E, an adjustment is made to yield the proposed base revenue change by rate class to limit the increase to any class to two times the average overall increase of 6.9 percent. Also, in order to mitigate the impacts to the classes that would otherwise have yielded a higher percentage revenue increase, no decrease to any class is implemented. The remaining difference is allocated to Rate 10 and Rate 54 classes. The resulting increase to these two classes is slightly below the overall average increase in base revenues. The

resulting proposed base revenues by rate are indicated in Column G of NMGC Exhibit DPY-8.

Q. WHY IS THE LEVEL OF THE ACCESS FEE IMPORTANT?

A. The level of the monthly fixed access fee is important for a variety of reasons that relate to the Company's rate design goals I described earlier. First, the monthly fixed access fee provides customers with an important price signal concerning the impact of connecting to the NMGC distribution system. Second, recovering customer-related costs through monthly fixed access fee contributes to intra-class fairness. Third, the fixed monthly access fee provides revenue stability associated with the Company's fixed costs.

Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED CHANGE TO THE RATE 10 MONTHLY ACCESS FEE.

A. For the reasons just stated, NMGC is proposing to increase the monthly customer charge for residential customers from $11.65 to $12.70. A $12.70 monthly access fee yields an increase in the proportion of fixed costs recovered through fixed charges. While a more significant increase to this access fee would be suggested by the results of the FACOS, I am recommending the smaller increase as a means of moderating bill impacts to smaller customers.

Q. WHAT ARE THE LEVELS OF THE PROPOSED RATE 10 TRANSMISSION AND DISTRIBUTION CHARGES?

A. The transmission and distribution charges are designed to recover the remaining revenue requirements not recovered by means of the monthly access charge. As discussed above, the proposed revenue requirements for the class are as set forth in NMGC Exhibit DPY-8. The proposed distribution charge remains unchanged at $0.1661 per therm and the proposed transmission charge is $0.0732 per therm as compared to the current charge of $0.0634 per therm.

A comparison of the existing and proposed rates and revenues for Rate 10 and all other tariff rates is provided as NMGC Exhibit DPY-9. This exhibit provides a revenue proof for all rate classes showing the net change in base revenues based on the proposed rates and test period billing determinants.

Q. PLEASE DESCRIBE THE DERIVATION OF RATES FOR THE REMAINING RATE CLASSES.

A. The first step in deriving the rates for the remaining classes entailed determining any increases to fixed access fees. The access fees for Rate 37 Gas Air Conditioning, Rate 54 Small Volume General Service, and Rate 56 Medium Volume General Service are each increased to provide for a greater proportion of fixed charge recovery. Next, the variable transmission and distribution charges for these and the remaining rate classes were adjusted to yield the total revenue requirements determined on NMGC Exhibit DPY-8. The resulting rates are set forth in NMGC Exhibit DPY-9.

Q. HOW WOULD YOU DESCRIBE THE IMPACT OF THE PROPOSED RATE CHANGES ON NMGC'S RECOVERY OF ITS OVERALL BASE COSTS OF PROVIDING SERVICE TO ITS CUSTOMERS?

A. The majority of NMGC's revenue requirements are associated with recovering capital expended to ensure ongoing reliability of service and safety to the customers and communities the Company serves. These costs are all fixed in nature and do not increase or decrease with the level of natural gas consumed by customers. The rate design changes proposed in this case maintain the current rate structure and recover an increased proportion of fixed costs through fixed charges. While the proposed rates do not entirely eliminate existing subsidies, moderate improvement in intra-class revenue responsibility is achieved through the application of the proposed revenue increase across rate classes in a manner that moderates the impact to the classes that would have experienced an increase in excess of 13.8 percent of base revenues. In my view, the proposed rates result from a fair and reasonable rate design approach, balancing the rate design goals described earlier in my testimony.

Q. HAVE YOU PREPARED ILLUSTRATIVE BILL IMPACTS REFLECTING THE PROPOSED RATES?

A. Yes. NMGC Exhibit DPY-10 contains bill impacts for Rate 10 and Rate 54 customers at various monthly therm usage levels. The bill impacts reflect other applicable charges and fees providing an understanding of the impact of the proposed changes in base rates on

customers of varying sizes of consumption. The bill impacts resulting from the proposed rate design are moderate and support the reasonableness of the proposed rate design.

Q. IS IT NECESSARY TO UPDATE THE FACTORS IN THE WNA MECHANISM TARIFF TO REFLECT THE REVISED RATES YOU PROPOSE?

A. Yes. Several elements of the WNA Mechanism Tariff are linked with the rates derived in a base rate proceeding. These are the (i) margin revenue factors, (ii) normal calendar month heating degree days, (iii) temperature recording station weighting percentages, and (iv) degree day consumption factors. The proposed revisions to these elements of the WNA Mechanism Tariff maintain consistency between the proposed base rates and the WNA Mechanism. Implementing changes to these factors at the time that new base rates become effective will ensure that the WNA Mechanism appropriately normalizes margin recoveries for variations in weather going forward.

VII. CNG FACILITY CHARGE

Q. PLEASE DESCRIBE NMGC'S EXISTING VEHICLE FUEL TARIFF.

A. NMGC offers gas service for CNG fuel vehicles pursuant to Rate No. 39. This rate is for customer-owned refueling stations, whereby the customer is responsible for the costs of owning and operating the CNG refueling station necessary to provide natural gas on a compressed basis.

Q. WHAT MODIFICATION TO RATE 39 IS THE COMPANY PROPOSING IN THIS PROCEEDING?

A. NMGC proposes to provide customers with the option of purchasing CNG from NMGC via refueling stations owned and operated by the Company. The CNG vehicle market offers important environmental benefits when compared to traditional diesel and gasoline-fueled vehicles. The availability and initial cost of refueling stations represent impediments to broader adoption of CNG vehicles. The optional tariff provisions that NMGC proposes to add to Rate 39 address these impediments by providing customers with the option of purchasing CNG vehicles without taking on the direct ownership and operational responsibilities of refueling infrastructure.

Q. HOW WOULD NMGC BE COMPENSATED FOR ANY REFUELING INFRASTRUCTURE IT OWNS AND OPERATES ON BEHALF OF RATE 39 CUSTOMERS?

A. A customer that elects to have NMGC construct and operate CNG refueling facilities would be subject to two charges – a CNG Facility Charge and a CNG Refueling Charge. The CNG Facility Charge equal to $0.25 per therm recovers the capital costs associated with construction of the facility. NMGC will establish a minimum volume commitment based on the initial cost of the facilities that will enable the Company to recover the costs of the facility over the initial term of the service agreement with the customer. At the conclusion of the initial term, the customer will cease paying the CNG Facility Charge. The CNG Refueling Charge equal to $0.1591 per therm recovers all O&M costs associated with

operating the facility, including electricity. The CNG Refueling Charge would continue to be paid as long as the station is in operation and would be examined whenever NMGC files a base rate case.

Q. WHAT TYPE OF CUSTOMER IS MOST LIKELY TO BE INTERESTED IN THE CNG FACILITY SERVICE OPTION?

A. CNG vehicles offer a cost-effective alternative to gasoline and diesel vehicles. Reduced emissions provide environmental benefits that support the attainment of vehicle emissions reduction goals. Vehicle manufacturers continue to develop and market vehicles that rely on CNG for engine fuel. The majority of CNG vehicles expected in NMGC's service area are likely fleet vehicles due to the lack of extensive rapid-fill refueling infrastructure. Typically, fleet vehicles are refueled at a common location or locations. A customer that decides to deploy a fleet of CNG vehicles, but prefers not to acquire the knowledge and expertise needed to plan for the construction and operation of a refueling facility would benefit from NMGC's proposed CNG facility service option. Potential customers could include municipalities and commercial fleet operators.

Q. WOULD NMGC OPEN ONE OR MORE REFUELING STATIONS TO PROVIDE SERVICE TO THE PUBLIC PURSUANT TO THE NEW RATE 39 SERVICE OPTION?

A. No. NMGC does not intend to build and operate CNG refueling stations in order to acquire a share of the public refueling market. Entities that desire to enter this market can continue

to do so under the existing Rate 39 tariff by constructing and operating their own CNG refueling station. The new optional provisions of Rate 39 would allow a customer that provides public refueling to elect to have NMGC construct and operate CNG refueling facilities, however, all of the associated costs would be borne by the customer.

Q. WILL THE RATE 39 TARIFF PROVISIONS APPLY TO STATIONS CONSTRUCTED FOR THE COMPANY'S OWN FLEET?

A. No. All costs associated with CNG refueling operations for NMGC's utility service vehicle fleet are operational costs and will be recovered through the Company's base rates as is the case with all other utility fleet expenses.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.