

**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 )  
NEW MEXICO GAS COMPANY, INC. )  
Applicant. )**

**Case No. 21-00267-UT**

**DIRECT TESTIMONY AND EXHIBITS  
OF  
GERALD C. WESEEN**

**December 13, 2021**

**DIRECT TESTIMONY OF  
GERALD C. WESEEN  
NMPRC CASE NO. 21-00267-UT**

**I. INTRODUCTION**

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**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.**

**A.** My name is Gerald Weseen, and my business address is 7120 Wyoming Boulevard, NE Suite 20, Albuquerque, New Mexico. I am Vice President - Regulatory, Strategy and External Affairs for New Mexico Gas Company, Inc., (“NMGC” or the “Company”). I am responsible for business strategy pertaining to the Company delivering long-term value to its customers, promoting initiatives that maximize value from our proximity to abundant natural gas resources in New Mexico, and delivering on initiatives that cost-effectively reduce the Company’s overall greenhouse gas emissions. I also have executive responsibility for Regulatory, Governmental and External Affairs, and Energy Efficiency.

**Q. PLEASE BRIEFLY DESCRIBE YOUR BUSINESS EXPERIENCE.**

**A.** Before I joined NMGC in January 2020, I spent 13 years with Emera Inc. and held several executive positions with Emera and its largest Canadian affiliate, Nova Scotia Power. Immediately before NMGC, I was Vice President of Special Projects at Emera, with involvement in the development of large-scale regional electric transmission and renewable energy solutions to serve customers in Atlantic Canada and the U.S. Northeast. From early 2014 until August 2018, I was based in Boston, MA as the U.S. project lead for an Emera affiliate developing a subsea transmission cable that was proposed to deliver clean energy from Atlantic Canada to New England. For additional details relating to my professional background, please see NMGC Exhibit GCW-1.

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1 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NEW MEXICO PUBLIC**  
2 **REGULATION COMMISSION (“NMPRC” OR THE “COMMISSION”)?**

3 **A.** Yes. I previously adopted written testimony and testified before the Commission in  
4 NMPRC Case No. 19-00317-UT (“2019 Rate Case”).

5  
6 **Q. WHAT IS THE PRIMARY PURPOSE OF YOUR TESTIMONY IN THIS CASE?**

7 **A.** In Section II, I describe the benefits from greenhouse gas (“GHG”) emissions reduction  
8 initiatives that were part of the 2019 Rate Case. In Section III, I identify and outline the  
9 ongoing initiatives by NMGC in this case to further decrease GHG emissions related to the  
10 Company’s operations.

11

**II. NMGC’S REPORT ON THE RESULTS OF ITS GHG INITIATIVES**  
**PRESENTED IN THE 2019 RATE CASE**

12

13

14

15 **Q. PLEASE SUMMARIZE THE REASONS FOR NMGC’S ENGAGEMENT IN GHG**  
16 **REDUCTION INITIATIVES.**

17 **A.** As NMGC described in the 2019 Rate Case, Governor Lujan Grisham signed an Executive  
18 Order committing New Mexico to comply with the Paris Climate Accords. In 2019, the  
19 New Mexico legislature, with executive support, signed significant legislation whereby the  
20 State took action to fulfill the commitments of the Governor’s Executive Order. NMGC  
21 agrees with these commitments, and in 2019 set about to do its part to reduce GHG  
22 emissions from its operations. In 2019, NMGC, engaged Navigant Consulting Inc.  
23 (“Navigant”) to inventory the Company’s GHG emissions and make recommendations for

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1 initiatives to reduce emissions from Company operations. On its own initiative and based  
2 on the report submitted by Navigant, NMGC proposed initiatives in its 2019 Rate Case to  
3 reduce GHG emissions from Company operations.

4  
5 **Q. WHAT ARE THE RESULTS OF THE GHG INITIATIVES NMGC PRESENTED**  
6 **IN THE 2019 RATE CASE?**

7 **A.** In paragraph 26 of the Stipulation entered into in the 2019 Rate Case, NMGC agreed that:  
8 “In its next rate case, NMGC will provide a reasonable estimate of the reductions in carbon  
9 dioxide and methane emissions (together “GHG Emissions”) produced by NMGC’s  
10 initiatives, including those described in the testimony of NMGC Witness Gerald C.  
11 Weseen, and will document the reduction in GHG Emissions produced by those initiatives.  
12 NMGC will provide testimony addressing the cost effectiveness of its GHG initiatives”.

13  
14 NMGC sought proposals from consultants and retained the Natural Gas Advisory Services  
15 Group of global consulting firm ICF Resources, LLC (“ICF”) to review and make  
16 recommendations about the Company’s approach to quantifying the benefits of the  
17 initiatives proposed in the 2019 Rate Case, and to conduct independent analysis of actual  
18 results. ICF conclusions are set forth in NMGC Exhibit GCW-2.

19  
20 Here is a summary of the estimation of GHG emission reductions and the cost effectiveness  
21 of these initiatives.

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**1           1.       Solar Panel Installation**

2           NMGC has started installing solar panels at facilities across the state to self-generate  
3           electricity at 16 different locations. Construction at the largest three facilities - the NMGC  
4           Business Center in Albuquerque, the Albuquerque Service Center (“Edith Facility”), and  
5           the Santa Fe Service Center – occurred in 2021. Solar panels will be installed at the other  
6           13 facilities in 2022.

7  
8           As of the filing of this case, the investment by NMGC is \$2,047,886. This includes the  
9           purchase of panels in 2020 and 2021 which was done to ensure access to the maximum  
10          solar tax credit available, in order to reduce overall cost for NMGC customers. When  
11          completed in 2022, the total investment by NMGC will be approximately \$3 million and  
12          the estimated annual reduction in GHG emissions will be 681 metric tons (“MT”) of CO<sub>2e</sub>,  
13          with lifetime emissions reductions estimated at more than 17,000 MT of CO<sub>2e</sub>. CO<sub>2e</sub>, or  
14          carbon dioxide equivalent, is a standard measurement used in reporting GHG emissions,  
15          and means the number of metric tons of CO<sub>2</sub> emissions with the same global warming  
16          potential as one metric ton of another greenhouse gas, including methane. Annual avoided  
17          costs, once all 16 solar facilities are in-service, are estimated to be more than \$140,000.  
18          The estimated payback period is approximately 18 years. These estimates are based on  
19          assumptions including the GHG intensity of grid electricity that is being displaced. So, for  
20          example, if electricity rates were to rise more quickly than being assumed here, the  
21          economics of the project would be more favorable. NMGC will track the actual costs and  
22          savings achieved through this project over time.

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**2. Compressed Natural Gas (“CNG”) Facility**

NMGC has constructed a CNG fueling facility for Company vehicles at the Edith Facility. The Company also began purchasing new CNG vehicles in 2020 for regular vehicle replacement under its fleet procurement program. Seven of 17 vehicles ordered have been delivered at the time of this filing. Delivery of the remaining 10 vehicles are scheduled for delivery in February 2022. Data regarding CNG vehicle fuel use is insufficient to estimate actual GHG emission reductions, so estimates are provided based on vehicle cost, 2021 gasoline, diesel and compressed natural gas prices, as well as forecasts for future gasoline and diesel prices from the U.S. Energy Information Administration’s 2021 Annual Energy Outlook. The average annual avoided cost per vehicle, based on CNG use versus regular fuel and expectations for lower maintenance costs for CNG vehicles, is estimated to be about \$750. Estimated annual emissions for 17 vehicles is estimated to be 27 MT of CO<sub>2</sub>e; reductions will increase over time as the number of CNG vehicles in the NMGC fleet increases. CNG is one of the cleanest burning alternative fuels available. Natural gas vehicles (“NGVs”) can reduce nitrogen oxide (NO<sub>x</sub>) emissions and reactive hydrocarbons, both precursors to smog, by as much as 95 percent. NGVs also reduce emissions of carbon monoxide (CO) by 85 percent and carcinogenic particulate emissions by 99 percent.

The Company also engaged in discussions with one municipality and one commercial customer for construction of additional CNG fueling facilities that could also be utilized by either commercial customers or the general public. Based in part on these negotiations, which did not result in another facility being constructed, the Company concluded that modifications were required to NMGC’s Rate No. 39 – Compressed Natural Gas Vehicle

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1 Fuel (“Rate 39”), to deliver flexibility to suit individual customer circumstances. The  
2 Company’s proposed revisions to Rate 39 are in this case and discussed by NMGC Witness  
3 Daniel P. Yardley.

4  
5 NMGC is still planning to complete a CNG facility at its Santa Fe Service Center.  
6 However, the timing for this project is outside the scope of this rate case.

7  
8 **3. Repaired Grade 3 Leaks**

9 As stated in my testimony in the Company’s 2019 Rate Case, all natural gas systems have  
10 leaks associated with their operations. NMGC and industry practices delineate three  
11 categories of gas leaks on a natural gas utility system: Grade 1, Grade 2, and Grade 3.  
12 Grade 1 leaks represent an immediate hazard; by regulation and NMGC practice, Grade 1  
13 leaks must be immediately addressed until the hazardous condition has been eliminated.  
14 NMGC fully complies with this requirement. Grade 2 leaks are, at the time of discovery,  
15 not hazardous to people or property, but repair is justified based on their potential to  
16 become a hazard in the future. By regulation and NMGC practice, Grade 2 leaks must be  
17 eliminated within 15 months of discovery. NMGC fully complies with this requirement.  
18 Grade 3 leaks are non-hazardous at the time of discovery and can reasonably be expected  
19 to remain so. By regulation and NMGC practice, Grade 3 leaks must be re-checked yearly  
20 to ensure those leaks continue to meet the criteria of a Grade 3 leak, namely, that they are  
21 not hazardous and are expected to remain non-hazardous.

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1 In the 2019 Rate Case, NMGC committed to a program to repair all legacy Grade 3 leaks.  
2 This was in addition to the Company’s then existing leak repair expenditures. As part of  
3 this commitment, NMGC repaired 266 Grade 3 leak repairs in 2020 and 2021; 165 on  
4 distribution pipelines and 101 on customer meters. Only two legacy Grade 3 leaks had not  
5 been repaired at the time of filing this case, due to circumstances specific to each leak. The  
6 incremental cost for repairing these Grade 3 leaks was approximately \$780,000. The  
7 estimated annual emissions avoided as a result of these repairs was almost 4,000 MT of  
8 CO<sub>2e</sub> and a lifetime avoided emissions of approximately 20,000 MT of CO<sub>2e</sub> assuming a  
9 “business as usual” estimate that Grade 3 leaks would not have been repaired immediately  
10 but instead would have been monitored in compliance with federal regulations. Emissions  
11 reduction estimates are based on the assumption that these minor leaks would not have  
12 been repaired for five years. Avoided emissions would be higher if these Grade 3 leaks had  
13 continued to emit gas for longer than five years.

14  
15 **4. Wizard Controller Replacement**

16 In its 2019 Rate Case, NMGC undertook a program to replace Wizard Controllers, which  
17 are pneumatic pressure controllers that use gas pressure to move a valve and which result  
18 in gas being vented to the atmosphere. The newer-model controllers are a low-bleed design  
19 that require less gas to perform the same function and reduce the amount of supply gas  
20 vented to the atmosphere.

21  
22 A total of 35 controllers were replaced during 2020 and 2021, at a cost of just more than  
23 \$200,000. Four controllers were not replaced because they were entirely removed from



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1 NMGC's system because of separate capital improvements at NMGC compressor stations.  
2 The annual emissions avoided by the replacement of 35 Wizard Controllers is estimated to  
3 be more than 3,000 MT of CO<sub>2e</sub>, with an estimated lifetime avoided emissions of more  
4 than 30,000 MT of CO<sub>2e</sub> (based on an expected life of 10 years for each controller). The  
5 annual avoided cost, based on reduced gas usage and NMGC's average gas commodity  
6 price from 2020 (\$1.82/MCF), is more than \$12,000.  
7

8 **Q. PLEASE SUMMARIZE THE RESULTS OF THE COMPANY'S GHG EMISSION**  
9 **REDUCTION INITIATIVES FROM THE 2019 RATE CASE.**

10 **A.** As summarized in Table 1, each of the four GHG emission reduction initiatives included  
11 in the Company's 2019 Rate Case is cost effectively reducing GHG emissions from  
12 Company operations. To put the cost of this portfolio of emission reduction measures in  
13 context the emission reduction cost (\$ per metric ton of carbon dioxide equivalent/t CO<sub>2e</sub>)  
14 can be compared to the carbon prices set by the market in existing cap and trade programs  
15 designed to drive down GHG emissions. For example, in California's Cap and Trade  
16 Program, in the 3rd quarter of 2021, the weighted average price of emission reduction  
17 allowances being transferred was \$24.61 per metric ton of carbon dioxide equivalent/t  
18 CO<sub>2e</sub>. The portfolio emission reduction cost included here of \$12 per metric ton of avoided  
19 CO<sub>2e</sub> emissions compares favorably to the latest costs in California's program.

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1 **Table 1 - Summary of 2019 Rate Case GHG Emissions Reduction Initiatives**

<b>Initiative</b>	<b>Upfront Incremental Investment</b>	<b>Annual Avoided Costs</b>	<b>Annual Avoided Emissions (MT CO<sub>2</sub>e)</b>	<b>Lifetime Avoided Emissions (MT CO<sub>2</sub>e)</b>	<b>\$ per MT CO<sub>2</sub>e</b>
<b>Solar installation (16 facilities)</b>	\$3,036,878	\$140,700 (estimated)	681 (estimated)	17,713	-\$6.16
<b>CNG Vehicles (Through filing)</b>	\$255,449	\$12,899 (estimated)	27 (estimated)	296	\$271.42
<b>Wizard Controller Replacement</b>	\$201,353	\$12,555 (estimated)	3,113 (estimated)	31,126	\$2.98
<b>Grade 3 Leak Repair</b>	\$778,082	\$14,910 (estimated)	3,932 (estimated)	19,662	\$35.74
<b>TOTAL</b>	<b>\$4,271,762</b>	<b>\$180,434</b>	<b>7,753</b>	<b>68,797</b>	<b>\$11.64</b>

2

3 **III. NEW GHG EMISSION REDUCTION INITIATIVES CONTAINED IN**  
 4 **THIS CASE**

5

6 **Q. IS THE COMPANY PROPOSING RECOVERY FOR ADDITIONAL GHG**  
 7 **EMISSION REDUCTION INITIATIVES IN THIS CASE?**

8 **A.** Yes.

9

10 **Q. WHAT ARE THESE NEW INITIATIVES?**

11 **A.** These new initiatives reduce GHG emissions through changes in equipment or procedures  
 12 in NMGC operations, and propose to blend hydrogen with natural gas to displace methane  
 13 in NMGC's distribution system and to reduce carbon emissions at the burner tip.

14

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1 **Q. PLEASE DESCRIBE WHAT THE COMPANY DID TO DEVELOP THESE**  
2 **INITIATIVES.**

3 **A.** First, NMGC sought proposals from consultants and in January 2021 retained ICF.  
4 Working with NMGC, ICF updated the Company’s GHG emissions inventory and made  
5 recommendations for GHG emission reduction opportunities based on ICF’s work with  
6 other natural gas distribution companies and industry groups. As previously discussed,  
7 ICF also quantified the benefits of GHG emission reduction initiatives brought forward in  
8 NMGC’s 2019 Rate Case. ICF’s analysis on the reduction initiatives for the 2021 Rate  
9 Case can be found in NMGC Exhibit GCW-3.

10  
11 Second, NMGC’s Engineering and Technical Services group reviewed Company  
12 operations and assessed opportunities to reduce GHG emissions from the operations of  
13 NMGC’s pipeline and compressor facilities. Ideas from this group contributed to final  
14 decisions about the initiatives that are included in this filing (see NMGC Exhibit GCW-3).

15  
16 Third, based on recommendations in the 2019 Navigant report, and given the increased  
17 interest in blending hydrogen with natural gas to reduce GHG emissions, NMGC began in  
18 2020 to work with various industry experts and local New Mexico stakeholders to develop  
19 a pilot program to test the possibility of blending hydrogen with natural gas in NMGC’s  
20 system. As part of this examination, NMGC provided funds from the Company’s \$5  
21 million GHG Reduction Research & Development Fund (“R&D Fund”), as approved in  
22 the Company’s request for a variance in NMPRC Case No. 15-00327-UT (Emera  
23 Acquisition Case), to BayoTech, an Albuquerque-based company, to further the

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1 development and deployment of modular hydrogen generation technology that can be used  
2 in utility hydrogen blending. The partnership between NMGC and BayoTech has, as  
3 described below, helped NMGC develop a hydrogen blending strategy using New Mexico  
4 technology and expertise.

5  
6 In addition, NMGC has begun working with other outside experts, including Project  
7 Canary, a Colorado based entity, to examine and consider using the Company's economic  
8 power to help drive upstream producers to reduce methane emissions during the production  
9 of natural gas and thereby deliver to NMGC and NMGC's customers a cleaner lower-  
10 emission product. This is known as "certified low-emission natural gas" because an  
11 independent third party provides verification of low emissions during production. Similar  
12 actions are being considered and implemented by gas utilities throughout the country.

13  
14 Based on these activities, NMGC will outline its GHG emission reduction initiatives in this  
15 case and will summarize the work it has begun in the area of certified low-emission natural  
16 gas that is not included in this case, but which shows promise for the future.

**GHG Emission Reduction Equipment**

17  
18  
19 **Q. PLEASE DESCRIBE THESE EQUIPMENT-DRIVEN GHG EMISSION**  
20 **REDUCTION INITIATIVES.**

21 **A.** As background, the U.S. Environmental Protection Agency has reported that avoiding  
22 preventable methane emissions produces a significant GHG emission reduction benefit  
23 because, while methane's lifetime in the atmosphere is much shorter than CO<sub>2</sub>, methane

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1 traps more radiation than CO<sub>2</sub>, such that the impact of methane emissions are 25 times  
2 greater than CO<sub>2</sub> over a 100-year period. Based on this, NMGC has again made reducing  
3 methane emissions from Company operations a top priority in this case.

4  
5 The Company is purchasing equipment and taking actions that will further reduce methane  
6 emissions from the Company's system, building on the Grade 3 leak repair work the  
7 Company undertook in the 2019 Rate Case.

8  
9 First, the Company is purchasing mobile flare units to avoid venting of gas during large  
10 system improvement projects, including the construction or retirement of lines. These units  
11 allow for the burning of gas, as opposed to gas being vented, which produces CO<sub>2</sub>  
12 emissions rather than methane emissions, and therefore a reduction in overall GHG  
13 emissions from NMGC operations. The Company is purchasing two of these units in 2022  
14 and 2023 at a total cost of approximately \$390,000. These two units will reduce GHG  
15 emissions by an estimated 3,620 MT of CO<sub>2</sub>e per year. Including additional flare units  
16 acquired in 2021 and planned for purchase in 2024, annual avoided emissions would be  
17 approximately 12,500 MT of CO<sub>2</sub>e and lifetime avoided emissions are estimated to be  
18 approximately 187,000 MT of CO<sub>2</sub>e.

19  
20 Second, the Company is purchasing a trailer-mounted compressor to be used during routine  
21 operations, maintenance and construction activity, to extract natural gas stranded in  
22 isolated sections of main, compress it, and then inject it back into the system. This reduces  
23 methane emissions from venting unused stranded gas. The compressor will also be used

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1 during integrity management in-line inspections (“ILI”), to move gas from the upstream  
2 side of the ILI tool to the downstream side, to help push the tool through the pipeline.  
3 Between these two uses, the compressor would lead to estimated emissions reductions of  
4 more than 2,100 MT CO<sub>2e</sub> per year. The cost of the trailer-mounted compressor is  
5 estimated to be approximately \$710,000.

6  
7 Lastly, NMGC is making a capital investment and changing its procedure for starting  
8 compressor stations specifically to reduce venting of natural gas. Currently, stations start  
9 their natural gas-fired engines by passing natural gas through a pneumatic starter, which  
10 vents natural gas to the atmosphere. The Company is re-piping the starters at all five  
11 compressor stations (Redondo, Espejo, Lee County, Star Lake, and Cabezon) so they can  
12 utilize air starts instead. This is anticipated to result in an estimated reduction of 602 MT  
13 of CO<sub>2e</sub> per year. While this is primarily a change in operating procedure, there is a  
14 required capital investment of approximately \$610,000.

15  
16 For investments in 2022 and 2023, these three separate actions will reduce the Company’s  
17 annual GHG emissions by approximately 6,400 MT of CO<sub>2e</sub> at a cost of just more than  
18 \$1.7 million. Over an assumed 15-year life, these actions being taken in 2022 and 2023  
19 will reduce the Company’s GHG emissions by approximately 96,000 MT of CO<sub>2e</sub>. Some  
20 equipment could be anticipated to last longer than 15 years which would increase the  
21 lifetime savings and lower the overall emissions reduction cost. The average cost per MT  
22 of CO<sub>2e</sub>, for this portfolio of initiatives, is estimated to be \$21.83.

23

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1 **Q. WHAT PART OF THIS INITIATIVE IS INCLUDED IN THIS RATE CASE?**

2 **A.** In 2022 the capital investment is estimated to be almost \$1.5 million, and in 2023 the capital  
3 investment is estimated to be about \$220,000.

4

5 **Hydrogen Blending**

6 **Q. WHAT IS HYDROGEN BLENDING AND WHAT IS THE COMPANY DOING**  
7 **WITH REGARD TO HYDROGEN BLENDING?**

8 **A.** Natural gas is methane, and hydrogen blending involves taking pure hydrogen and blending  
9 it with the natural gas that is already in the gas distribution system thereby reducing the  
10 methane being delivered and effectively reducing GHG emissions at the burner tip. Like  
11 many other natural gas distribution companies, NMGC has been actively investigating the  
12 blending of hydrogen into its system. In this effort, NMGC is working with New Mexico  
13 experts in hydrogen, industry experts, and the state's national labs to develop and test ways  
14 to blend hydrogen with the methane in the system, determine the maximum and optimal  
15 percentages that can safely and effectively be blended, and understand the ramifications of  
16 blending hydrogen with methane in NMGC's distribution system.

17

18 Based upon current information, it is estimated that NMGC may be able to reduce GHG  
19 emissions by about 10% when it achieves a blend of 20% hydrogen/80% methane in the  
20 gas being delivered to NMGC customers. To fully understand this, the Company is  
21 presently launching a pilot project at its Edith Facility and funding this through the  
22 Company's R&D Fund which was set up with funds Emera provided as part of its

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1 acquisition of NMGC. The pilot project is intended to lead to a larger, potentially  
2 systemwide, blending program.

3  
4 The pilot project itself is proceeding in two phases:

5 Phase 1 involves installation of pipes and blending equipment at the Edith Facility, to  
6 enable the testing of hydrogen blended with natural gas. The hydrogen-natural gas blend  
7 used for these tests will be in pre-mixed containers delivered to the facility.

8  
9 Phase 1 began in late 2021. During these tests, small amounts of premixed hydrogen and  
10 natural gas were blended into a replicated testing system that is completely isolated from  
11 the Company's distribution system, and tested in natural gas appliances. These Phase 1  
12 tests, which will continue in 2022, are supported by consulting expertise from the Gas  
13 Technology Institute (GTI) and are being used to prepare for Phase 2 of our project.

14  
15 Phase 2 involves the injection of hydrogen produced on-site at the Edith Facility, initially  
16 at a blend of 5% hydrogen/95% methane, into an isolated segment of the NMGC  
17 distribution system that serves customers.

18  
19 Phase 2, with construction planned in 2022 and an anticipated in-service goal of early 2023,  
20 will initially displace 5% of natural gas in an isolated, primarily polyethylene (PE) plastic  
21 segment of the NMGC distribution system, with volumes progressively increasing to a  
22 maximum of 20% by volume. Hydrogen for the blending project will be produced by a  
23 BayoTech H2 1000 modular steam methane reformer, located at the Edith Facility. This



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1 Bayotech unit produces hydrogen from the combustion of natural gas. A key element of  
2 Phase 2 is engagement with interested and affected stakeholders, including the community  
3 and residential/commercial customers, and data collection regarding blending and the  
4 potential impact of hydrogen on NMGC's system.

5  
6 **Q. WHAT IS THE COMPANY'S ULTIMATE OBJECTIVE?**

7 **A.** The Company's intent is to make hydrogen blending a regular part of gas deliveries to its  
8 customers. The decision to proceed will be based on the results of the initial hydrogen  
9 blending pilot project previously described, as well as data from blending projects  
10 undertaken by other utilities. The Company believes hydrogen used in future blending  
11 projects will be produced from combustion of renewable natural gas, combustion of natural  
12 gas with carbon capture technology, or potentially from hydrogen produced by  
13 electrolyzers utilizing excess wind or solar generation. Further research and assessment is  
14 required. NMGC is working with GTI and industry experts, other utilities who are  
15 undertaking hydrogen blending, and participants in national hydrogen initiatives, to  
16 develop these ideas. Additionally, NMGC is consulting with Sandia National Labs  
17 ("Sandia") to conduct systematic testing of the impact of hydrogen blending on materials  
18 used in pipelines. NMGC's pilot project will provide "in the field" data for that work.  
19 Sandia National Labs is involved with assessment of the impact of hydrogen on existing  
20 infrastructure as part of HyBlend™, a collaborative research and development project  
21 funded by the U.S. Department of Energy and led by the National Renewable Energy  
22 Laboratory that is addressing the technical barriers to blending hydrogen in natural gas  
23 pipelines. Participants include six of the country's 17 national labs (including Sandia),

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1 utilities, and various partners from industry and academia. Access to information from  
2 HyBlend™ will assist NMGC and help to inform the parameters and requirements for its  
3 blending project.

4  
5 **Q. WHAT IS THE COST OF THE HYDROGEN BLENDING PILOT PROJECT?**

6 **A.** The budget for equipment, engineering and implementation of Phase 1 and Phase 2 of the  
7 hydrogen blending pilot project in 2022 and 2023 is \$6.7 million. This includes purchase  
8 of the BayoTech H2 1000 production unit and pipeline improvements that will enable  
9 Phase 2 of the pilot project. Other projected costs include continuation of the Phase 1  
10 demonstration, purchase of hydrogen for early Phase 1 activities, external technical  
11 support, customer and community engagement regarding hydrogen blending, and ongoing  
12 monitoring/testing of the NMGC system as Phase 2 is implemented. Approximately  
13 \$980,000 was spent in 2021 on assessing hydrogen opportunities generally and planning  
14 for the blending pilot project.

15  
16 **Q. HOW IS NMGC PROPOSING TO PAY FOR THIS PROJECT?**

17 NMGC is first using shareholder funds from the R&D Fund to help pay for the hydrogen  
18 blending project. After the R&D Fund is exhausted, it is estimated there will be \$2.9  
19 million of remaining costs for the project. The Company is proposing to include \$2.9  
20 million in rate base in 2023.

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1 **Q. WHY DOES NMGC NEED RATEPAYER FUNDS IN THIS PROGRAM AT THIS**  
2 **TIME?**

3 **A.** The Governor and leadership in the state legislature have prioritized action on reducing  
4 GHG emissions. Hydrogen blending is promising and technically feasible. Securing  
5 known sources of funding, including ratepayer contributions in 2023, allows the Company  
6 to devote all of its R&D funds to the initial phases of this program and ensures that funds  
7 will be available after the R&D Fund is exhausted. While NMGC is working closely with  
8 the State of New Mexico and other stakeholders to access state and federal funds for its  
9 hydrogen blending program, including as part of the hydrogen hub buildout in New  
10 Mexico, it is our understanding based on discussion with others involved in similar  
11 projects, that access to state or federal funding will be optimized, or may be contingent, on  
12 full use of the shareholder R&D Fund and a commitment of some contribution from  
13 ratepayers. We are continuing to investigate all sources of funding but anticipate that funds  
14 from ratepayers will be helpful in obtaining funds from other sources for this initiative.

15  
16 NMGC is aware that all proposed and future ratepayer contributions to this project must  
17 be justified and carefully and prudently incurred. So, prior to any additional requests for  
18 ratepayer funds, the Company will exhaust all alternative sources before seeking further  
19 ratepayer funds, and will seek approval by the Commission.

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**DIRECT TESTIMONY OF  
GERALD C. WESEEN  
NMPRC CASE NO. 21-00267-UT**

**Certified Low-Emission Natural Gas**

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**Q. WHAT IS CERTIFIED LOW-EMISSION NATURAL GAS?**

**A.** Certified low emission natural gas is natural gas that is certified by an independent third party as being produced with lower methane emissions. This certification is achieved through the continuous monitoring of performance at individual production well pads or facilities as well as throughout the entire process of gathering, processing and transportation of natural gas to distribution companies like NMGC. This monitoring ensures that production meets minimum criteria for emissions and that any methane leaks are immediately addressed.

**Q. PLEASE DESCRIBE WHAT NMGC IS DOING WITH REGARD TO CERTIFIED LOW EMISSION NATURAL GAS?**

**A.** NMGC has started working with Project Canary on ways to influence upstream producers to provide NMGC with low emission natural gas. Project Canary was formed as a Public Benefit Corporation, and its certification program provides measurement-based emission profiles via continuous monitoring technology. Project Canary estimates that continuous monitoring of upstream operations could result in an 18% or greater reduction in carbon emissions compared to delivered gas that is produced without such monitoring.

These efforts are consistent with the New Mexico Oil Conservation Division's 2021 changes that will require, by the end of 2026, a 98% reduction in the loss of methane at

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1 every stage of the oil and natural gas production process (changes to Rule 19.15.29 NMAC  
2 in Case No. 21834).

3  
4 NMGC is optimistic about the potential for certified low-emission natural gas, and NMGC  
5 intends to continue working with Project Canary to develop leads and contract for low  
6 emission natural gas and will keep the Commission apprised of its progress in developing  
7 a viable program for obtaining certified low emission natural gas. Supporting a  
8 commitment in New Mexico to certified low-emission natural gas could offer a strategic  
9 advantage to oil and gas producers in the state. Given they must soon meet more stringent  
10 requirements for emissions reductions from their operations, there is a benefit if they can  
11 receive acknowledgement for achieving those reductions and offering a differentiated  
12 product to gas purchasers, including NMGC.

13  
14 **Q. IS NMGC SEEKING RECOVERY OF ANY INCREMENTAL COSTS RELATING**  
15 **TO CERTIFIED NATURAL GAS INCLUDED IN THIS CASE?**

16 **A.** No, not in this case. This effort by the Company is in a preliminary stage. The Company  
17 will report further on this as this work develops.

18  
19 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

20 **A.** Yes.