Testimony of
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United States Senate Committee on Energy and Natural Resources
(Full Committee Field Hearing)
February 21, 2011

Mr. Chairman, Senator Udall, Members of the Committee, and Congressmen Heinrich and Lujan:

Thank you for the opportunity to address the Committee today about the recent natural gas service disruptions in New Mexico, and more broadly the reliability of our regional energy infrastructure, in light of the events during the week of January 31, 2011, during which twenty-eight thousand, seven hundred and seven (28,707) customers of New Mexico Gas Company (NMGC) in communities throughout the state lost gas service. In my testimony, I will first discuss the storm, the gas supply shortages in the interstate pipelines and the gas service curtailment and System Emergencies initiated and declared by on February 1st, 2nd and 3rd 2011. I will first discuss NMGC's pre-curtailment planning, curtailment decision making, and the performance of our distribution system. In the middle section of my testimony, I will address the recovery effort. By that, I mean the steps taken to restore service to our customers once our distribution system stabilized. I will also share some lessons learned and actions NMGC will take in the coming months to better serve our customers should New Mexico face an event of this magnitude again. Finally, my testimony will address matters beyond our control. We would like to know more about the specific upstream events in Texas that prevented the interstate pipelines from delivering gas on February 2nd and 3rd 2011, that NMGC had ordered and paid for. There are questions that need to be addressed about the reliability of well head production, and natural gas gathering lines and processing plants. Our concern is that the necessary

investigation and analysis will not occur absent oversight by this Committee and a concerted fact finding investigative effort by federal regulators. Our goal as a company is that NMGC will be able, later this year, to provide assurances to our customers that steps have been taken to prevent this kind of event in the future. If we achieve that goal, it will be in large part because of the initiative this Committee is demonstrating today. We thank the Committee for its efforts and pledge our cooperation.

I. Background.

The majority of NMGC's gas supply comes from New Mexico and is received into our system either directly from the San Juan Basin, near Farmington, or through the Transwestern and El Paso Interstate Pipelines. The balance comes from suppliers and producers in Texas which is also transported through the Transwestern and El Paso pipelines,. This includes gas from our contracted geological storage facility in Texas.

NMGC operates two primary segments of its system. The South segment primarily receives gas fed off the El Paso south pipeline, and serves the communities of Silver City, Alamogordo, Tularosa and La Luz that experienced outages. The North segment is primarily fed off the El Paso north and Transwestern pipelines and serves the northern communities and Native American pueblos that were affected by outages, including Bernalillo, Placitas, Taos, Espanola, Red River and Questa, and surrounding communities.

During the week of January 31, 2011, the delivery of natural gas to NMGC from West Texas was severely limited by a once-in-50-year event that the National Weather Service characterized as "a winter storm of historic proportions." The storm and rolling electrical blackouts in Texas significantly reduced vital gas field operations and gas processing facilities. Pressure on the interstate pipelines which transport gas to New Mexico and three other states,

California, Arizona and Texas dropped significantly. Gas outages were reported in New Mexico, Arizona and Texas. NMGC experienced a dramatic loss of gas supply, and significant pressure reductions from the interstate pipeline system. In contrast, our direct suppliers in New Mexico continued processing and delivering approximately 90% of scheduled gas.

The facility specific facts and circumstances that caused these losses in the interstate pipelines are best addressed by the producers, gas processing plant owners and operators, and interstate pipeline companies. Gas delivery off these facilities to the New Mexico Gas Company system was severely limited. Without these disruptions in supply of gas, NMGC would not have had to curtail or interrupt service to its customers. Thus, while this event has been described as a local gas supply matter, it is more accurate to describe it as a disruption in the interstate gas delivery system which we understand was caused by electricity disruption and/or weather conditions in Texas.

II. The Events at NMGC on February 1-3, 2011

NMGC routinely monitors long- and short-term weather forecasts. In the long-term forecast, NMGC saw an emerging weather system that had the potential to affect demand for gas as early as January 31, 2011. As with all storms, NMGC preparations commenced early. Our system transmission lines were safely packed with extra gas, and NMGC confirmed that our gas storage facility was positioned for withdrawals when needed. Additional gas was purchased for the anticipated surge in demand by our customers. For February 1st, 2nd, and 3rd , NMGC had pre-purchased 36%, 55%, and 62%, respectively, more gas than our forecasted need. In other words, NMGC had bought significantly more gas than our forecasting models had predicted we would need considering this type of storm – correctly anticipating how severe it would be.

These steps were intended to ensure supplies were ready when our customers' use reached its peak.

Given the severity of the anticipated storm, at 9:00 a.m. on Wednesday, February 2, 2011, NMGC requested that large industrial and commercial customers throughout the state voluntarily reduce or curtail their gas usage. In total, NMGC contacted 39 customers asking for voluntary curtailment.

Throughout the work day on Wednesday, NMGC monitored gas supply and pipeline pressures as is our normal practice. Pressures and supply remained within operational limits. NMGC had purchased and was anticipating an incremental delivery of gas at 9 p.m. on Wednesday.

At 9:00 p.m. Wednesday, the pre-ordered gas was not delivered from the interstate pipelines as scheduled. As a result, throughout the night and into Thursday morning, NMGC repeatedly contacted suppliers and pipeline operators in an effort to secure additional gas for customers. At 2:36 a.m. on Thursday morning, because of low pressures on the South segment of the NMGC system, the Company declared a System Emergency on the South segment and began the process of curtailing customers. During the night, we were coordinating with the Otero County Emergency Coordinator, the Otero County Sheriff and Tularosa Police Department as service was being curtailed.

Despite the problems on the South segment, NMGC, monitoring the North segment in the pre-dawn hours, believed it to be stable, with adequate line pack and that NMGC would be able to meet the anticipated morning surge in demand. Additionally, NMGC was scheduled to receive an incremental delivery of gas at 8 a.m. Thursday. Never in the history of gas operations at NMGC, or its predecessors, had the regional gas infrastructure failed to deliver purchased

incremental gas on two consecutive occasions, and therefore NMGC reasonably expected this morning delivery.

By 7:30 on Thursday morning, NMGC was experiencing a significantly increased demand for gas – 70% greater than peak day demand, and therefore was experiencing a decline in line pack at an extraordinary rate. By 7:30, NMGC declared a System Emergency on the North segment of its operations. This situation triggered preparations for reducing system demand in the event the anticipated 8:00 a.m. incremental delivery of gas did not materialize, including immediately initiating mandatory curtailment of service to large commercial and industrial customers. In total, NMGC curtailed service to 9 large customers during Thursday.

At 8:00 Thursday morning, NMGC learned that the pre-ordered gas scheduled for delivery at 8:00 a.m. was not being delivered. Given this development, as pressure on the Taos Mainline began to drop precipitously, NMGC shut off the Ottowi valve to curtail service to the Taos Mainline. This curtailment was an effort to safely control this portion of the system as it lost pressure and to reduce demand throughout the system and in order to preserve the remainder of the system. Shortly after this, NMGC, working with PNM, curtailed service to the Cobisa power plant in Albuquerque. Further action was taken to reduce customer demand by closing valves to curtail service to Bernalillo and Placitas. Altogether, these actions reduced demand on the North segment and preserved the remainder of the North segment. Had NMGC not closed valves in the North, including Bernalillo and Placitas, NMGC risked losing its entire system.

Regarding these actions, the design of NMGC's distribution system alone dictated that NMGC move quickly to identify critical valves that were easily accessible by crews that would, once shut down, reduce customer demand and increase pressure throughout the system. By "easily accessible," we mean valves that could be reached and closed within 20 to 30 minutes.

In addition, we had to close valves to those portions of the system already experiencing the lowest pressures. The system design and valve configuration in communities such as Albuquerque and Santa Fe are too complex to complete a shut down in the time required to provide support for the remainder of the system.

III. Recovery and Post-Response Efforts

Following the difficult decisions in the pre-dawn and early morning hours of Thursday, pressures on both segments of the system – North and South – began to stabilize. The South segment stabilized quickly, and by 10:34 a.m. the North segment had achieved a balance between supply and demand. Throughout Thursday, line pack increased. At the same time, NMGC remained concerned about its ability to handle anticipated customer demand on Friday morning. NMGC, working with cities and the state government, renewed efforts for voluntary curtailment, including closing non-essential services, schools and businesses. As a result of all these efforts, plus moderating temperatures, the line pack was restored throughout Thursday and by Friday morning, with reduced customer demand, the Company could turn its attention and its full resources to restoring the service to its customers that had been curtailed.

In order to restore service, the following procedures were set in motion: First, NMGC has to physically shut off each individual meter in order to be able to purge the lines of air. After the lines are purged, each individual meter must be turned on and the appliances relit. The second step, re-lighting, could not commence until <u>all</u> customers in an area that had their meters shut off and the lines in that area had been purged of air. The act of relighting a home required customers to be home.

Among its efforts to bring all resources to bear in this effort, NMGC, enlisted the service of utility workers from across the country to come to New Mexico to assist, including 69 from its

sister company in Michigan. NMGC also utilized the services of Plumbers and Pipefitters Local 412, many private contractors from the affected areas, and National Guardsmen, fire personnel, and state and local police. At the height of the effort, over 1,100 individuals participated in the recovery process.

Despite the application of all of these resources to re-establishing service, our initial estimate as to when service would be up and running was overly optimistic. Our goal was Sunday February 6th, but service was not restored to all of our customers until Tuesday, February 8th. Some customers – less than 50 – were "red-tagged" because appliances were unsafe. On February 12th and 14th our crews went back to those customers and undertook the necessary repairs to restore service at no charge.

IV. Lessons Learned: Review of NMGC Operations and System.

While NMGC is not responsible for the production, processing or interstate transmission of gas to our system, we have learned from this situation and accept responsibility for the things we could have done better. In addition to participating in the numerous investigations that will result from these events, NMGC is independently undertaking the following actions.

First, NMGC established a $1 million relief fund to assist customers with their needs arising from the outage. A claims form and a process for evaluating claims have been set up. NMGC continues to seek additional contributions to this fund from others in the industry.

Second, in the coming months, NMGC will conduct a complete review of its processes and procedures and will retain outside consultants as necessary to conduct an independent assessment of our actions.

Third, NMGC will institute completely revamped communications plans and processes, including:

A. Developing a dial-out early warning system capable of alerting customers of emergency situations.

B. Developing a customer communications plan outlining steps to be taken, including more aggressive pre-emergency communications and the use of social media, where appropriate.

C. Additional use of local radio and television.

D. Enhancing direct communications with state and local elected officials and government agencies, Native American pueblos, and the state's Emergency Operations Center and the State's Department of Homeland Security.

Fourth, NMGC has already retained an independent consultant to conduct a thorough evaluation of its entire emergency operating procedures and policies and make recommendations for improvements.

Fifth, NMGC will review and revise its customer curtailment and service restoration procedures including better ways to sectionalize areas of our system to make sure that system operation is better situated to minimize the impact on the areas that suffered during this event.

Sixth, NMGC will evaluate all physical system improvements including the feasibility of establishing back-up supply measures, including LNG, propane air systems, above and underground storage; methods to loop lines or building new lines so that branches of the system are less susceptible to pressure loss.

V. Industry-Wide Improvements Needed

In the last two weeks, the root causes of the failure of the regional gas supply infrastructure have received little public scrutiny. This is understandable for several reasons. First, as this testimony is prepared, the storm and the gas curtailments occurred only two weeks

ago. Second, the facts are difficult to gather. Third, there is no single regulatory body that has jurisdiction over all of the industry segments.

The gas industry is no longer vertically integrated. There are many parties involved in our industry including gas producers, suppliers, gathering systems, processing plants, pipeline owners and operators and natural gas storage providers. The importance of a reliable electricity supply cannot be overstated. Each company in the gas and electric industries plays a critical role in delivering gas to customers. Each can undoubtedly make important contributions to the fact finding effort, and each should be involved. Industry involvement can also help develop system wide improvements that will be needed to accomplish this Committee's goal of improving the reliability of the regional energy infrastructure.

Mr. Chairman, NMGC very much appreciates the chair's initiative in scheduling this hearing today. The New Mexico Public Regulatory Commission and the Federal Energy Regulatory Commission have initiated inquiries into the events of February 1, 2, and 3. NMGC is looking forward to participating in these hearings. We pledge our cooperation. We note that FERC in its February 14, 2011 order commented on the investigations that have commenced in Texas, New Mexico and Arizona. FERC stated that it "would seek to coordinate efforts with those states and their regulatory authorities, and exchange relevant information so that we are mutually able to determine quickly what went wrong and how to prevent a recurrence." Mr. Chairman, New Mexico Gas Company concurs. Cooperation and coordination will be key to accomplishing this Committee's objectives. There are various models for effectuating this cooperation including the multi jurisdictional task force approach, under the auspices of the Department of Energy, that was used to convene the investigation, and author the definitive report on the 2003 blackout in the northeastern United States and Canada.

With respect to fact finding, there is a consensus that the bad weather, frozen pipes, and rolling blackouts in the electric grid in Texas hampered the ability of producers and processing plants to push gas into the interstate pipelines. The details of and the interrelationship between these events must be developed.

On a policy level, there are issues that should be explored. Should critical areas, such as gas producing basins, be exempt from rolling blackouts because of their importance to the safety and well-being of citizens? Should all critical facilities, including processing plants, be required to have back-up generation? Do all wellheads and gathering systems have the proper dehydration equipment in place to minimize freezing? What is the best approach to ensure that segments of the industry critical to the natural gas infrastructure achieve a greatly enhanced level of reliability?

Clearly, there should be increased real time information sharing among all parties in the natural gas delivery system. An improved approach to the critical interdependence between the electric grid and the natural gas industry needs to be developed. This recent crisis clearly demonstrates that a failure in the electric grid can disrupt natural gas supplies, which can impact thousands of natural gas customers.

To conclude, and bring this matter and testimony back home to New Mexico, NMGC is determined to do what it can to insure that we are in a better position to minimize service interruptions, to communicate more effectively, and in the aftermath of an event to do everything we can to expedite the restoration of service to all of our customers. To achieve this goal and to improve the regional infrastructure, we pledge NMGC's full cooperation.

Thank you again for this opportunity to present New Mexico Gas Company's perspective and insight into the system failures that occurred on February 1, 2, and 3 2011. This concludes my testimony.