STATE OF NEW MEXICO
BEFORE THE ENVIRONMENTAL IMPROVEMENT BOARD

IN THE MATTER OF:

PROPOSED NEW REGULATION,
20.2.50 NMAC – OIL AND GAS **No. EIB 21-27 (R)**
SECTOR –OZONE PRECURSOR POLLUTANTS

REBUTTAL TESTIMONY OF JEFFREY "RYAN" DAVIS ON BEHALF OF THE INDEPENDENT PETROLEUM ASSOCIATION OF NEW MEXICO

September 7, 2021

IPANM EXHIBIT 10

I. WITNESS BACKGROUND AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jeffrey Ryan Davis. My business address is 610 Reilly Ave., Farmington, New Mexico 87401.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING REBUTTAL TESTIMONY?

A. The Independent Petroleum Association of New Mexico ("IPANM"). I am currently the President of IPANM.

Q. HAVE YOU PROVIDED PREVIOUS TESTIMONY IN THIS CASE?

A. Yes, I provided direct testimony, which includes: (i) a summary of my qualifications and experience; (ii) a discussion of IPANM's evaluation of and proposed changes to the regulations proposed by the New Mexico Environment Department ("NMED"), Oil and Gas Sector—Ozone Precursor Pollutants, 20.2.50 NMAC; and (iii) the technical bases for certain related modifications to the regulations proposed in IPANM's Notice of Intent to Present Technical Testimony ("IPANM's Notice of Intent"). My direct testimony was submitted with IPANM's Notice of Intent, filed on July 28, 2021.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to the direct testimony of NMED and other parties to this proceeding relating to the following proposed amendments to 20.2.50 NMAC:

- 20.2.50.2 NMAC – Scope;

- 20.2.50.7 NMAC – Definitions of "Pneumatic controller" and "Small business facility";
- 20.2.50.111 NMAC – Applicability;
- 20.2.50.117 NMAC – Natural Gas Liquid Unloading;
- 20.2.50.122 NMAC – Pneumatic Controllers and Pumps;
- 20.2.50.124 NMAC – Well Workovers, and;
- 20.2.50.125 NMAC – Small Business Facilities.

Q. HAVE YOU REVIEWED THE NOTICE OF INTENT TO PRESENT TECHNICAL TESTIMONY ("NOI") AND EXHIBITS FILED BY NMED, THE NEW MEXICO OIL & GAS ASSOCIATION ("NMOGA"), CLEAN AIR ADVOCATES ("CAA"), THE ENVIRONMENTAL DEFENSE FUND ("EDF"), AND THE GAS COMPRESSOR ASSOCIATION ("GCA") RELATED TO THE AMENDMENTS ADDRESSED IN YOUR DIRECT AND REBUTTAL TESTIMONY?

A. Yes.

III. NMED PROPOSALS RELATED TO DEFINITIONS OF "PNEUMATIC CONTROLLER" AND "SMALL BUSINESS FACILITY"

Q. HAVE YOU REVIEWED NMED'S PROPOSED DEFINITIONS OF "PNEUMATIC CONTROLLER" AND "SMALL BUSINESS FACILITY"?

A. Yes.

Q. PLEASE SUMMARIZE NMED'S CURRENT PROPOSALS.

A. The definition of "Pneumatic controller" in 20.2.500.7(EE) NMAC provides a general description of what a pneumatic controller is and the device's function. My understanding is that the definition was derived in part from the Colorado Reg. 7.

The definition of "Small business facility" in 20.2.500.7(OO) NMAC outlines the criteria for applicability of 20.2.5.125 NMAC. The proposed definition states that a "small business facility" is a source that is independently owned or operated by a company this is not a subsidiary or a division of another business with less than 10 employees and less than $250,000 in gross revenue.

Q. BASED ON YOUR REVIEW OF KUEHN & PALMER'S AND DAY & KUEHN'S TESTIMONY, RESPECTIVELY, WHAT DO YOU UNDERSTAND TO BE THE BASIS FOR NMED'S PROPOSAL FOR THE DEFINITIONS OF "PNEUMATIC CONTROLLER" AND "SMALL BUSINESS FACILITY"?

A. The Pneumatic controller definition is necessary for the provisions proposed in 20.2.5.122 NMAC regarding the regulation of natural gas-driven pneumatic controllers and pumps. The definition of small business facilities is necessary for the applicability of 20.2.50.125 NMAC.

Q. DID THE ANALYSIS IN PRE-FILED DIRECT TESTIMONY PROVIDED BY NMED WITNESSES KUEHN & PALMER AND DAY & KUEHN CAUSE YOU TO RECONSIDER THE STATEMENTS AND PROPOSED REVISIONS TO 20.2.50.7(EE) AND (OO) NMAC CONTAINED IN YOUR DIRECT TESTIMONY?

A. On the small business definition, the direct testimony helped me to understand the extensive effort that the NMED went through to evaluate and propose the threshold for the regulations' applicability to small businesses. While the current threshold of $250,000 in gross revenue and 10 employees may provide some relief for the very small operators in the state, I do not believe that it addresses the potential economic impact completely on

most small businesses. The fact remains that there will be many wells and operators significantly impacted by the proposed regulation. The first concern is the lack of regulatory certainty for operators with the fluctuation of commodity prices. An operator could find itself qualifying as a "Small Business Facility" one year, and then not the next, if commodity prices increase. The second issue that I see is that the NMED analysis for the "Small Business Facility" threshold only considered operators with wells that overall, on average, could not support the cost of compliance. While this helps ensure those select few operators do not become insolvent, there are a few things to address with the analysis.

First, NMED's analysis doesn't include the cost of compliance for pneumatics, which is a provision that IPANM has significant concerns about the feasibility both economically and technically. I took the well count and production data used in the NMED analysis and ran gross revenue calculations. The main takeaway from the analysis is the higher percentage of stripper wells, the higher the percentage of gross revenue for the cost of compliance. It was difficult to determine the appropriate threshold in terms of gross revenue. As previously stated, gross revenue is dependent on commodity price and is not a good measure of an operator's profitability. I believe that a well's production and potential to emit (PTE) are better measures to assure the necessary relief. The production and PTE are independent of commodity prices.

Q. BASED ON YOUR REVIEW OF NMED'S PROPOSALS AND SUPPORTING DIRECT TESTIMONIES, ARE YOU CHANGING YOUR POSITION ON RECOMMENDED PROPOSED REVISIONS TO 20.2.50.7(EE) AND (OO) NMAC THAT WERE STATED IN YOUR DIRECT TESTIMONY?

A. No.

Q. PLEASE EXPLAIN.

A. IPANM believes that it is necessary to refine the definition of the pneumatic controller to provide more clarity when referenced in 20.2.50.122 NMAC.

Regarding the Small business facility definition, IPANM still believes that the original stripper well and low PTE proposal made by the NMED in the pre-proposal draft provided the necessary and appropriate relief for operators with marginal production in the state.

Q. DID ANY OTHER PARTY PROPOSE MODIFICATIONS TO THE DEFINITIONS OF "PNEUMATIC CONTROLLER" AND "SMALL BUSINESS FACILITY"?

A. Yes, NMOGA proposed modifications to both.

Q. PLEASE SUMMARIZE THOSE PROPOSED CHANGES.

A. On the pneumatic controller definition, NMOGA proposed similar changes to the base definition as IPANM and added additional detail on the different types/configuration of pneumatic controllers.

For the small business facility definition, NMOGA proposed deleting the definition and the associated 20.2.50.125 NMAC Small Business Facilities section due to the lack of relief provided.

Q. WHAT IS YOUR RECOMMENDATION TO THE ENVIRONMENTAL IMPROVEMENT BOARD WITH RESPECT TO THE DEFINITIONS OF "PNEUMATIC CONTROLLER" AND "SMALL BUSINESS FACILITY"?

A. IPANM recommends that the Environmental Improvement Board consider the proposed changes from IPANM and NMOGA, which includes the additional detail on the types and configurations of pneumatic controllers.

IPANM recommends that the Environmental Improvement board carefully consider the necessary relief for small business with the potential impacts of the proposed regulations. Regarding the definition of a small business facility, IPANM has expressed concerns with the current proposal of $250,000 gross revenue and less than 10 employees. IPANM recommends that the Environmental Improvement Board consider the following provisions of the Small Business Regulatory Relief Act:

> E. "small business" means a business entity, including its affiliates, that is independently owned and operated and employs fifty or fewer full-time employees.

NMSA 1978 § 14-4A-3.

> D. The legislature finds that: when adopting rules to protect the health, safety and economic welfare of the state, agencies should seek to achieve statutory goals as effectively and efficiently as possible without imposing unnecessary burdens on small businesses;

NMSA 1978 § 14-4A-2.

It is apparent that the Legislature found it important to protect businesses that employ 50 or fewer employees.

IV. NMED PROPOSALS RELATED TO THE APPLICABILITY SECTION (20.2.50.111 NMAC)

Q. HAVE YOU REVIEWED NMED'S PROPOSED REGULATIONS RELATED TO THE APPLICABILITY SECTION?

A. Yes.

Q. PLEASE SUMMARIZE NMED'S CURRENT PROPOSALS.

A. As drafted, 20.2.50.111 NMAC states that the regulations apply "to crude oil and natural gas production and processing equipment and operations that extract, collect, separate, dehydrate, store, process, transport, transmit, or handle hydrocarbon liquid or produced water in the areas specified in 20.2.50.2 NMAC and are located at wellhead sites, tank batteries, gathering and boosting sites, natural gas processing plants, and transmission compressor stations, up to the point of the local distribution company custody transfer station." Additionally, the section requires that sources subject to the rules, "calculate the Potential to Emit (PTE) of such sources" and have the calculations "certified by a qualified professional engineer." The rule requires the calculation be kept on file for at least 5 years and be provided to NMED "upon request."

Q. BASED ON YOUR REVIEW OF KUEHN & PALMER'S TESTIMONY, WHAT DO YOU UNDERSTAND TO BE THE BASIS FOR NMED'S PROPOSAL REGARDING THE APPLICABILITY SECTION?

A. It is my understanding that the NMED's primary purpose in the applicability section is to ensure the accurate and representative calculation of a source's PTE, which would determine whether a source is subject to Part 50 of the proposed regulation.

Q. DID YOUR DIRECT TESTIMONY ADDRESS THE BASES FOR NMED'S PROPOSED CHANGES?

A. Yes, as stated in my direct testimony IPANM has concerns with the requirement that certification of the PTE calculations be by a qualified professional engineer.

Q. WHAT IS YOUR ANALYSIS OF NMED'S BASES FOR ITS POSITIONS?

A. The requirement of having a qualified professional engineer certification is not necessary and creates an unnecessary burden to operators. In-house engineers are not required to be licensed as a professional engineer. New Mexico Board of Licensure for Professional Engineers and Professional Surveyors states that "An engineer employed by a business entity who performs only the engineering services involved in the operation of the business entity's business shall be exempt from the provisions of the Engineering and Surveying Practice Act; provided that neither the employee nor the business entity offers engineering services to the public" (Section 61-23-22 of the NM Engineering and Survey Practice Act).

Q. DID THE ANALYSIS IN PRE-FILED DIRECT TESTIMONY PROVIDED BY NMED WITNESSES KUEHN & PALMER CAUSE YOU TO RECONSIDER THE STATEMENTS AND PROPOSED REVISIONS TO 20.2.50.111 NMAC CONTAINED IN YOUR DIRECT TESTIMONY?

A. No

Q. BASED ON YOUR REVIEW OF NMED'S PROPOSALS AND SUPPORTING DIRECT TESTIMONIES, ARE YOU CHANGING YOUR POSITION ON RECOMMENDED PROPOSED REVISIONS TO 20.2.50.111 NMAC THAT WERE STATED IN YOUR DIRECT TESTIMONY?

A. No

Q. PLEASE EXPLAIN.

A. As I stated previously, the requirement of having certification by a qualified professional engineer is not appropriate and creates an unnecessary burden to operators. In-house engineers are not required to be licensed as professional engineers and can produce

accurate and representative PTE calculations. In addition, there may be other qualified individuals, that are not engineers, employed by the company that would be capable of producing accurate and representative PTE calculations.

Q. DID ANY OTHER PARTY PROPOSE MODIFICATIONS TO THE APPLICABILITY SECTION?

A. Yes. NMOGA.

Q. PLEASE SUMMARIZE THOSE PROPOSED CHANGES.

A. NMOGA proposed striking the need for a professional engineer certification of the PTE calculations. John Smitherman testified, based on his experience, why it is not necessary to have a professional engineer certify PTE calculations.

Q. WHAT IS YOUR RECOMMENDATION TO THE ENVIRONMENTAL IMPROVEMENT BOARD WITH RESPECT TO THE APPLICABILITY SECTION?

A. IPANM recommends that the environmental improvement board consider removing the professional engineer certification requirement as it is not necessary to ensure accurate and representative PTE calculations. This requirement would create unnecessary delay, additional cost, and burden to the operator without any benefit.

V. NMED'S PROPOSAL RELATED TO NATURAL GAS LIQUID UNLOADING SECTION (20.2.50.117 NMAC)

Q. HAVE YOU REVIEWED NMED'S PROPOSED REGULATIONS RELATED TO THE NATURAL GAS LIQUIDS UNLOADING SECTION?

A. Yes.

Q. PLEASE SUMMARIZE NMED'S CURRENT PROPOSALS.

A. The intent of this section is to reduce VOC emissions associated with manual liquids unloading events using best management practices during the life of the well and during the manual liquids unloading activities.

Q. BASED ON YOUR REVIEW OF KUEHN & PALMER'S TESTIMONY, WHAT DO YOU UNDERSTAND TO BE THE BASIS FOR NMED'S PROPOSAL REGARDING THE NATURAL GAS LIQUID UNLOADING SECTION?

A. Based on the review of Kuehn & Palmer's testimony, the proposal of using best management practices to reduce VOC emissions associated with the liquids unloading is based on the requirements outlined in Colorado Reg. 7, Pennsylvania GP-5 and GP-5A, and the Wyoming Permitting Guidance. It is also based on the estimate 13,020 tpy of VOC inventory number used in the ozone modeling conducted as part of the rulemaking. The NMED referenced the EPA Greenhouse Gas Reporting Program data that indicated that 97% of gas wells in the Permian and San Juan that require manual liquids unloading employ plunger lift. The NMED noted that the installation of plunger lift on the remaining 2.9% of the gas wells requiring manual liquids unloading would result in 4,272 tpy of VOC reductions or 36% of the baseline.

Q. DID YOUR DIRECT TESTIMONY ADDRESS THE BASES FOR NMED'S PROPOSED CHANGES?

A. Yes.

Q. WHAT IS YOUR ANALYSIS OF NMED'S BASIS FOR ITS POSITIONS?

A. The use of best management practices is a widely accepted method for reducing emission from manual liquids unloading activities. The prescription of artificial lift as a method to

reduce VOC emissions is inappropriate. The proposed regulation includes a requirement for the operator to use best management practices during the life of the well to avoid the need to perform manual liquids unloading. These best management practices would include using the appropriate artificial lift over the entire production life cycle of the well. The NMED is indicating through the proposal that the use of plunger lift or other artificial lift is a method to control VOC emissions from manual liquids unloading. I do not believe that artificial lift, including plunger lift, should be considered a control technology. If the appropriate artificial lift method is employed on a well, it can reduce the need to manual liquids unloading events, but as shown on the EPA GHGRP data, the majority of manual liquids unloading events occur on wells that have plunger lift installed. The intent of this section is to reduce the VOC emissions from manual liquids unloading events and I believe that is cover by the best management practices that are proposed in paragraphs 1 and 2 under subsection B of 20.2.50.117. There is no need for the NMED to prescribe the use of artificial lift under paragraph 3. In my experience, most manual liquids unloading events occur due to an upset conditions that is usually beyond the control of the operator. This is supported by the fact that the EPA GHGRP data indicated that 97% of the wells in the San Juan and Permian that require manual liquids unloading have plunger lift utilized.

Q. DID THE ANALYSIS IN PRE-FILED DIRECT TESTIMONY PROVIDED BY NMED WITNESSES KUEHN & PALMER CAUSE YOU TO RECONSIDER THE STATEMENTS AND PROPOSED REVISIONS TO 20.2.50.117 NMAC CONTAINED IN YOUR DIRECT TESTIMONY?

A. No.

Q. BASED ON YOUR REVIEW OF NMED'S PROPOSALS AND SUPPORTING DIRECT TESTIMONIES, ARE YOU CHANGING YOUR POSITION ON RECOMMENDED PROPOSED REVISIONS TO 20.2.50.117 NMAC THAT WERE STATED IN YOUR DIRECT TESTIMONY?

A. No.

Q. PLEASE EXPLAIN.

A. IPANM is supportive of using best management practices to reduce VOC emissions associated with manual liquids unloading. However, IPANM has significant concerns with the requirement to install and use artificial lift. The application of artificial lift is an engineered solution based on individual well parameters and site configurations. As illustrated by the EPA GHGRP data contained in the NMED testimony, plunger lift does not eliminate the need for manual liquid unloading. The installation and use of artificial lift should be a decision made by the operator who has the information and experience to employ the appropriate artificial lift method for each well.

Q. HAVE YOU REVIEWED NMOGA'S PROPOSED MODIFICATIONS RELATED TO THE NATURAL GAS LIQUID UNLOADING SECTION?

A. Yes.

Q. PLEASE SUMMARIZE THOSE PROPOSED CHANGES.

A. NMOGA highlighted that operators are in the business of selling gas, not venting it to the atmosphere. In most cases, manual liquids unloading is a last resort effort to restore production from a gas well. The testimony of John Smitherman also pointed to revisions proposed that clarify that the proposed regulations should apply to the events that result in

venting to the atmosphere. Lastly, NMOGA pointed to the need to have an additional management practice of utilizing an automated control system.

Q. IS IPANM SUPPORTIVE OF NMOGA'S PROPOSED MODIFICATIONS? PLEASE EXPLAIN.

A. Yes, IPANM is supportive of the modification that limits the applicability of the proposed regulation to the activities that result in venting natural gas to the atmosphere and believes the use of an automated control system can reduce the need for manual liquid unloading. The use of an automated control system would fall under the best management practices utilized over the life of a well.

Q. WHAT IS YOUR RECOMMENDATION TO THE ENVIRONMENTAL IMPROVEMENT BOARD WITH RESPECT TO THE NATURAL GAS LIQUID UNLOADING SECTION?

A. IPANM recommends the changes outlined in the proposed redline changes submitted with direct testimony. IPANM has provided clarifying language for the applicability to cover the manual liquids unloading events that result in the venting of natural gas. IPANM also proposed changes to eliminate Paragraph 3 under subsection B of 20.2.50.117 NMAC. IPANM does not believe that the regulations should prescribe artificial lift, including plunger lift, as this is a complex engineered application dependent on the individual well parameters and site characteristics. The use of a control device is not technically feasible for manual liquids unloading. Manual liquids unloading aims to maximize the differential pressure to remove the liquids from the well. The venting is directed to a storage tank on-site to capture the liquids during the manual liquids unloading event. These storage tanks

have a very small operating pressure range (ounces of pressure). Any attempt to capture the emissions from these tanks during the manual liquids unloading event would cause an unsafe condition on location. The use of artificial lift (plunger lift, foamers, automated control systems, compression, velocity strings, rod pumps, progressive cavity pumps (PCPs), electrical submersible pumps (ESPs), etc.) are covered under Paragraph 1 of Subsection B of 20.2.50.117 NMAC, which states "The owner or operator of a natural gas well shall use best management practices during the life of the well to avoid the need for manual liquids unloading". The best management practices listed in Paragraph 2 of Subsection B cover the best management practices employed to minimize the emissions during the manual liquids unloading events. The installation and use of plunger lift and artificial lift are not methods employed during the unloading event; they are methods that an operator implements over the life of the well. IPANM also believes that the being too prescriptive could unintentionally curtail innovation of best management practices in the future.

VI. NMED PROPOSALS RELATED TO PNEUMATIC CONTROLLERS AND PUMPS (20.2.50.122 NMAC)

Q. HAVE YOU REVIEWED NMED'S PROPOSED REGULATIONS RELATED TO THE PNEUMATIC CONTROLLERS AND PUMPS SECTION?

A. Yes.

Q. PLEASE SUMMARIZE NMED'S CURRENT PROPOSALS.

A. It is my understanding that NMED intends to secure VOC emission reductions from natural gas-driven pneumatic controllers and diaphragm pumps. The reduction in VOC emissions from pneumatic controllers is accomplished by setting natural gas-driven pneumatic

emission rates of zero for new pneumatic controllers and existing pneumatic controllers with access to commercial line power while transitioning a percentage of existing gas-driven pneumatics to non-emitting over time based on a schedule set forth within the tables in the proposed regulation. A similar approach is proposed with natural gas-driven pneumatic diaphragm pumps by setting natural gas emissions rates of zero for natural gas-driven pneumatic diaphragm pumps at natural gas processing plants and wellhead sites, tank batteries, gathering and boosting sites, or transmission compressor stations with access to commercial line power. The existing natural gas-driven pneumatic diaphragm pumps located at wellhead sites, tank batteries, gathering and boosting sites, or transmission compressor stations without access to commercial line power must reduce VOC emissions by 95% by routing emissions to a control device, fuel cell, or process.

Q. BASED ON YOUR REVIEW OF KUEHN & PALMER'S TESTIMONY, WHAT DO YOU UNDERSTAND TO BE THE BASIS FOR NMED'S PROPOSAL REGARDING THE PNEUMATIC CONTROLLERS AND PUMPS SECTION?

A. The proposal for pneumatic controller and pumps is based on the Colorado Reg. 7 Sections I.K, III.C, and IID. The zero-emission rate for new pneumatic controllers is based on Colorado Reg. 7, Section III.C.1-3 and is more stringent as it requires all new pneumatic controllers to have a bleed rate of zero. The NMED proposal does include the necessary exceptions for pneumatic controllers needed for safety and process requirements. The regulations for requiring all existing pneumatic controllers with access to line power to be non-emitting are based on Colorado Reg. 7, Section III.C.3.a.(i). The regulations requiring existing pneumatic controllers to be replaced with non-emitting controllers overtime are

based on Colorado Reg. 7, Section III.C.4. The NMED chose to phase-out on a percentage of controller basis versus the percentage of liquid approach in Colorado Reg. 7 with the basis that it provides operators the flexibility to retrofit in a manner they deem most cost-effective.

Q. DID YOUR DIRECT TESTIMONY ADDRESS THE BASES FOR NMED'S PROPOSAL?

A. Yes.

Q. WHAT IS YOUR ANALYSIS OF NMED'S BASES FOR ITS POSITIONS?

A. The NMED based the proposed regulation of pneumatics controllers on Colorado Reg. 7, but the Colorado approach on pneumatics has been a phased-in approach over close to a decade. Colorado Reg. 7 started with the phase-out of high-bleed rate pneumatic controllers. The zero-bleed rate standard started with sites with access to line power was the next phase that occurred over a seven-year period. There was also a technical and economic feasibility consideration. The most recent update of Reg. 7 that outlined the phase-out of gas-driven pneumatics is based on the percentage of liquid production and has an average statewide 15 barrels of oil equivalent or less per day per well exemption. Also, current Colorado Reg. 7 updates, with the non-emitting controller requirements on existing controllers without access to line power, were adopted earlier this year, and we have not yet seen how the actual implementation will go. It might look good on paper, but could be a very different story during the actual implementation. While the NMED based the general approach of phasing out gas-driven pneumatics on Reg. 7, the proposed regulation is

missing many essential relief provisions in Reg. 7 that prevent the overburdening of smaller operators and operators of stripper wells.

Q. DID THE ANALYSIS IN PRE-FILED DIRECT TESTIMONY PROVIDED BY NMED WITNESSES KUEHN & PALMER CAUSE YOU TO RECONSIDER THE STATEMENTS AND PROPOSED REVISIONS TO 20.2.50.122 NMAC CONTAINED IN YOUR DIRECT TESTIMONY?

A. No.

Q. BASED ON YOUR REVIEW OF NMED'S PROPOSALS AND SUPPORTING DIRECT TESTIMONIES, ARE YOU CHANGING YOUR POSITION ON RECOMMENDED PROPOSED REVISIONS TO 20.2.50.122 NMAC THAT WERE STATED IN YOUR DIRECT TESTIMONY?

A. No.

Q. PLEASE EXPLAIN.

A. There are significant challenges with utilizing the two control methods that NMED evaluated in its pneumatics reductions and cost analysis. Instrument air installations require line power for reliable performance. The vast majority of well sites and facilities in New Mexico do not have access to line power. The utility providers in San Juan and Permian operate in a just-in-time development manner, being that they do not have excess capacity or infrastructure deployed. The build-out of infrastructure is expensive and, in most cases, cost-prohibitive. The average cost of a line drop can be in the $200-300 thousand range, including the transformer bank and disconnect switches. Depending on terrain and power requirements, the distribution network build-out can run in the $325 thousand per mile

range. Overall the terrain is the most significant factor in the cost of installing the line power. There are also issues with securing the right of way (ROW) necessary to install the line. In the San Juan basin, we have challenging terrain and a checkboard situation in terms of surface ownership in some areas of the basin. It can require securing ROWs from several entities, including the Bureau of Land Management (BLM), State Land Office (SLO), tribes, and private landowners.

The use of solar electric also has it unique challenges. First off, it is not necessarily scalable for sites with multiple wells and more pneumatic controllers. In the direct testimony, the NMED witness states that "ERG assumed that intermittent bleed, low bleed, and high-bleed pneumatics could be powered with solar electric systems" (NMED Exhibit 32 page 137 lines 3-4). The testimony also stated that this assumption was supported by the EPA GHGRP data, which indicated that natural gas processing plants with access to electric power have 100% non-emitting controllers and pumps and that commercial line electrical power is equivalent to solar electric power. There are a few things I think are worth noting. First, when talking about solar electric systems, it was stated earlier in the testimony that solar electric systems included installing solar panels, batteries, and system controllers and replacing the pneumatic controllers with electric powered controllers. While high-bleed, low-bleed and intermittent bleed controllers can be replaced, it depends on the function that the device needs for the given process control. As an example, let's look at a liquid level controller and dump valve. The liquid level controller senses the liquid level in the process vessel and actuates the dump valve to move liquid out of the vessel to the storage

tank. From my experience, two types of electric actuators that can be used for this application. The rotary electric device is a little more affordable option. It consumes less power than the linear actuators, which has quicker positioning capability at the expense of power consumption and increased cost. The electric replacement must be a linear actuator in higher pressure gas separation applications, where snap action control is necessary. Our local supply vendor told me that these linear actuators consume a significant amount of power and that no one is running them without access to line power in the San Juan Basin. I highlight this primarily to illustrate that going solar electric is more complicated than just installing solar panels, batteries and replacing the pneumatic controllers with electric powered controllers. The power requirement for the solar system will depend on the number of actuations, the number of devices, and the type of devices. The second point is the equivalency of solar electric power to line power. You can design a solar system to provide the equivalent instantaneous power of line power, but there are challenges associated with solar when there is a lack of solar recharge. These challenges can be addressed with battery storage, but can be expensive. From IPANM's perspective, emissions from pneumatic controllers are over estimated since NMED based the emissions on an outdated and overstated EPA emission factors (IPANM Exhibit 2 at 16: 1-7) and the cost associated with going to non-emitting controls could be underestimated when you consider power requirements for sites without line power (solar and line power installations). There are a lot of variables when it comes to phasing out gas-driven pneumatics.

Q. DID ANY OTHER PARTY PROPOSE MODIFICATIONS TO THE PNEUMATIC CONTROLLERS AND PUMPS SECTION?

A. Yes. EDF proposed modifications addressed with direct testimony of David Lyon and Thomas Alexander. Clean Air Advocates proposed modifications included in the direct testimony of David McCabe. The direct testimony of Raymond Carr covers the proposed changes by Gas Compressor Association. NMOGA also address modifications of the Pneumatic Controller and Pumps Section with the direct testimony of John Smitherman.

Q. PLEASE SUMMARIZE THOSE PROPOSED CHANGES.

A. On a high-level EDF and Clean Air Advocates both proposed similar changes to the Pneumatic Controllers and Pumps Section that include a move to fixed percentage change on the phase-out of natural gas driven pneumatics and an accelerated schedule.

The Gas Compressor Association proposed changes to the Pneumatic Controllers and Pumps Section to encourage the use of intermittent pneumatic controllers.

NMOGA proposed changes to the Pneumatic Controllers and Pumps section that would base the phase-out of non-essential natural gas-driven pneumatic controllers on a percentage of liquid production basis.

Q. IS IPANM SUPPORTIVE OF GCA'S AND NMOGA'S PROPOSED MODIFICATIONS? PLEASE EXPLAIN.

A. Yes. First, IPANM is supportive of GCA's proposed changes that would encourage the use of intermittent pneumatic controllers. IPANM believes that intermittent pneumatic controllers provide a cost-effective method for operators to reduce the emissions associated with pneumatic controllers. IPANM also supports the modifications proposed by NMOGA.

The phase-out of gas-driven pneumatic controllers based on liquid production gives operators the ability to prioritize the retrofitting where it is most cost-effective and technically feasible.

Q. WHAT IS YOUR RECOMMENDATION TO THE ENVIRONMENTAL IMPROVEMENT BOARD WITH RESPECT TO THE PNEUMATIC CONTROLLERS AND PUMPS SECTION?

A. IPANM recommends that the EIB consider phasing out non-essential gas-driven pneumatic controllers based on a percentage of liquid production, while encouraging the use of intermittent bleed pneumatic controllers as a cost-effective method to reduce VOC emissions from gas-driven pneumatic controllers. It is also critical to include the necessary flexibility where it is not technically or economically feasible. IPANM has incorporated these recommendations in the proposed changes submitted in IPANM Exhibit 1 starting on page 7.

VII. NMED PROPOSALS RELATED TO WELL WORKOVERS (20.2.50.124 NMAC)

Q. HAVE YOU REVIEWED NMED'S PROPOSED REGULATIONS RELATED TO THE WELL WORKOVERS SECTION?

A. Yes.

Q. PLEASE SUMMARIZE NMED'S CURRENT PROPOSALS.

A. My understanding is that the NMED intends to secure VOC reductions associated with well workovers. The proposed regulation accomplishes this using best management practices while depressurizing or blowing down wellbores for downhole maintenance or repairs. These best management practices include reducing the wellhead pressure prior to

blowdown, monitoring the blowdown, and routing to sales if possible. NMED also has a provision in the current proposal to notify by certified mail all residents within a quarter mile at least three days prior to the workover.

Q. BASED ON YOUR REVIEW OF KUEHN & PALMER'S TESTIMONY, WHAT DO YOU UNDERSTAND TO BE THE BASIS FOR NMED'S PROPOSAL REGARDING THE WELL WORKOVERS SECTION?

A. The NMED workover provisions were based on Colorado Reg. 7 requirements and Wyoming's Permitting Guidance. Colorado Reg. 7, Section II.G requires operators to use best management practices to minimize emissions associated with well workovers, liquids unloading, and well plugging. Wyoming's Permitting Guidance requires minimizing emissions to the extent practicable. In addition, both Reg. 7 and Wyoming Permitting Guidance require that personnel remain on site to minimize gas venting.

Q. DID YOUR DIRECT TESTIMONY ADDRESS NMED'S PROPOSAL ON WELL WORKOVERS?

A. Yes.

Q. WHAT IS YOUR ANALYSIS OF NMED'S BASIS FOR ITS POSITIONS?

A. IPANM is supportive of the use of best management practices to minimize the VOC emissions from well workover activities but did not see any ozone-related basis for the requirement to notify offset residents via certified mail three days prior.

Q. DID THE ANALYSIS IN PRE-FILED DIRECT TESTIMONY PROVIDED BY NMED WITNESSES KUEHN & PALMER CAUSE YOU TO RECONSIDER THE

STATEMENTS AND PROPOSED REVISIONS TO 20.2.50.124 NMAC CONTAINED IN YOUR DIRECT TESTIMONY?

A. No.

Q. BASED ON YOUR REVIEW OF NMED'S PROPOSALS AND SUPPORTING DIRECT TESTIMONIES, ARE YOU CHANGING YOUR POSITION ON RECOMMENDED PROPOSED REVISIONS TO 20.2.50.124 NMAC THAT WERE STATED IN YOUR DIRECT TESTIMONY?

A. No.

Q. PLEASE EXPLAIN.

A. As mentioned previously, IPANM supports the use of best management practices to minimize the VOC emissions from well workover activities. The NMED did not provide an estimate of the emission reductions associated with well workovers, but the cost and administrative burden associated with employing best management practices are minimal. IPANM does not see how the requirement to notify offset residents would reduce VOC emissions but has significant burdens. As outlined in my direct testimony, there are concerns about the impact on the logistics of well workovers. The three-day certified mail notification has the potential to delay a downhole repair and the associated production restoration while not resulting in any reductions in VOC emissions.

Q. DID ANY OTHER PARTY PROPOSE MODIFICATIONS TO THE WELL WORKOVERS SECTION?

A. Yes, NMOGA proposed modifications.

Q. PLEASE SUMMARIZE THOSE PROPOSED CHANGES.

A. NMOGA highlighted the fact that there are two different categories of workovers. There are planned workovers, such as recompletions, and there are routine downhole repair workovers. NMOGA recommends that the three-day certified mail notification not apply to the routine workovers but instead a non-prescriptive notification given 24 hours prior. IPANM agrees that there is not the same potential for delaying planned workovers with the three-day certified notification as these activities require prior regulatory approvals and are planned well in advance. IPANM does not see how the notification process would result in any VOC emissions reductions.

Q. WHAT IS YOUR RECOMMENDATION TO THE ENVIRONMENTAL IMPROVEMENT BOARD WITH RESPECT TO THE WELL WORKOVERS SECTION?

A. IPANM recommends that the regulation of well workovers be based on the use of best management practices to reduce VOC emissions associated with well workovers, but not include the notification process since it will not result in any VOC emission reductions and has the potential to cause an unnecessary burden to industry by delaying well repairs and creating inefficiencies when moving workover rigs in the field.

VIII. NMED PROPOSALS RELATED TO SMALL BUSINESS FACILITIES (20.2.50.125 NMAC)

Q. HAVE YOU REVIEWED NMED'S PROPOSED REGULATIONS RELATED TO THE SMALL BUSINESS FACILITIES SECTION?

A. Yes.

Q. PLEASE SUMMARIZE NMED'S CURRENT PROPOSALS.

A. The NMED has proposed provisions in 20.2.50.125 NMAC to establish emission reduction, monitoring, and operational requirements for small business facilities. These requirements include operating equipment based on manufacturer specifications, calculating, and maintaining a company-wide database of VOC and NOx emissions. Small business facilities are also subject to the reporting requirements of 20.2.50.112 NMAC and the fugitive leak monitoring requirements of 20.2.50.116 NMAC. The small business facility operator must file an annual certification of meeting the small business facility definition requirements. The provision includes an onramp for the remaining sections of 20.2.50 NMAC if the operator does not fully comply with the requirements of 20.2.50.125 NMAC.

Q. BASED ON YOUR REVIEW OF DAY & KUEHN'S TESTIMONY, WHAT DO YOU UNDERSTAND TO BE THE BASIS FOR NMED'S PROPOSAL REGARDING THE SMALL BUSINESS FACILITIES SECTION?

A. The proposal for the small business facilities section is based on the recognition that the cost of complying with the requirements of the entire proposed rule could disproportionately impact the smallest companies and may result in the early abandonment of small business-owned wells. The NMED stated that this could result in increased uncontrolled emission from the abandoned wells.

Q. DID YOUR DIRECT TESTIMONY ADDRESS THE BASIS FOR NMED'S PROPOSED CHANGES?

A. Yes.

Q. WHAT IS YOUR ANALYSIS OF NMED'S BASES FOR ITS POSITIONS?

A. IPANM supports reducing the requirements applicable to small businesses and appreciates the Department's consideration of the regulations' impacts on small businesses. The requirements in 20.2.50.125 NMAC are not a complete exemption of the wells subject to the provision. The wells are subject to emission reductions by requiring proper equipment operation and maintenance, and the wells must comply with the equipment leaks and fugitive emissions requirements of 20.2.50.116 NMAC. In addition, the operator has requirements to calculate and maintain a company-wide database of VOC and NOx emissions, while being subject to the reporting requirements of 20.2.50.112 NMAC. It is evident the NMED recognized the potential financial burden that the proposed rule could have on small businesses and wanted to provide the necessary relief to prevent premature abandonment of wells in the state while not creating a regulation loophole.

Q. DID THE ANALYSIS IN PRE-FILED DIRECT TESTIMONY PROVIDED BY NMED WITNESSES DAY & KUEHN CAUSE YOU TO RECONSIDER THE STATEMENTS AND PROPOSED REVISIONS TO 20.2.50.125 NMAC CONTAINED IN YOUR DIRECT TESTIMONY?

A. Yes.

Q. BASED ON YOUR REVIEW OF NMED'S PROPOSALS AND SUPPORTING DIRECT TESTIMONIES, ARE YOU CHANGING YOUR POSITION ON RECOMMENDED PROPOSED REVISIONS TO 20.2.50.125 NMAC THAT WERE STATED IN YOUR DIRECT TESTIMONY?

A. Yes.

Q. PLEASE EXPLAIN.

A. IPANM originally proposed that the small business facility provisions not be adopted since it didn't accomplish the objective of reducing requirements applicable to small businesses. While I am still concerned that it is too limiting with the qualification of less than10 employee and $250,000 of gross revenue, I recognize the Department's efforts to provide appropriate relief for small business and prevent the premature abandonment of marginal wells. I believe that there is a balance to strike here to alleviate IPANM's concerns and accomplish the NMED's goal of providing relief, all while not exempting a large number of wells from regulation under the proposed 20.2.50 NMAC.

Q. DID ANY OTHER PARTY PROPOSE MODIFICATIONS TO THE SMALL BUSINESS FACILITIES SECTION?

A. Yes, NMOGA proposed modifications to this section.

Q. PLEASE SUMMARIZE THOSE PROPOSED CHANGES.

A. NMOGA expressed concerns regarding the devastating impact the rule could have on small businesses. NMOGA estimated that the operators of 87% of all gas wells in the state would not be able to absorb the cost of compliance associated with the entire rule. The testimony from NMOGA highlights that the NMOCD Waste Rule recently adopted contains requirements that apply to all wells in the state, effectively reducing VOC emissions. NMOGA proposed that the Small Business Facility section not be adopted because it did not provide the necessary relief that was intended. IPANM agrees with the concerns outline in the NMOGA testimony and agrees that the gas capture requirements of the NMOCD Waste Rule apply to every well in New Mexico, which will result in a reduction of ozone precursor emissions across the board. IPANM also agrees with NMOGA that the oil and

gas industry is very important to the state. We urge the EIB to adopt a balanced approach to secure emission reductions in this sector with a reasonable burden.

Q. IS IPANM SUPPORTIVE OF NMOGA'S PROPOSED MODIFICATIONS? PLEASE EXPLAIN.

A. IPANM agrees with NMOGA's modifications based on the current small business facility provision structure and definition. The gross revenue of an oil and gas producer is tied to commodity prices, which ebb and flow with market conditions. Moreover, gross revenue is not a good measure of an operator's profitability and does not consider the upfront capital costs of drilling and completing a well or the infrastructure needed to operate.

Q. WHAT IS YOUR RECOMMENDATION TO THE ENVIRONMENTAL IMPROVEMENT BOARD WITH RESPECT TO THE SMALL BUSINESS FACILTIES SECTION?

A. IPANM recommends that the EIB recognize that the cost of compliance with this proposed rule will disproportionately impact small business and lead to the premature abandonment of wells in the state of New Mexico. It is vital that the rule provide the appropriate relief to ensure the continued operation of a very important production base that comes from moderate to low producing wells in the state and the small businesses that operate these wells. Therefore, IPANM recommends that the EIB adopt an approach that balances the preproposal draft structure with the intent of the current proposal from NMED. Moving back to the stripper well and low PTE structure of the pre-proposal draft, while including the applicability of LDAR and the other requirements ensures that all wells are subject to a baseline set of requirements while not overburdening the stripper

wells in the state. This approach provides the appropriate relief for small business and prevents the premature abandonment of stripper wells.

IX. CONCLUSION

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.