

STATE OF NEW MEXICO

**DEPARTMENT OF ENERGY, MINERALS, AND NATURAL RESOURCES
OIL CONSERVATION COMMISSION**

**APPLICATION OF THE NEW MEXICO OIL
CONSERVATION DIVISION TO ADOPT 19.15.27 NMAC
AND 19.15.28 NMAC, AND TO AMMEND 19.15.7 NMAC,
19.15.18 NMAC, AND 19.15.19 NMAC; STATEWIDE**

CASE NO. 21528

ENVIRONMENTAL DEFENSE FUND'S PRE-HEARING STATEMENT

This Pre-Hearing Statement is submitted on behalf of the Environmental Defense Fund (“EDF”), through undersigned counsel, as required by NMAC 19.15.3.11.B.

I. Introduction

EDF hereby gives notice that it will present both non-technical and technical testimony at the hearing in this matter scheduled for January 4, 2021 before the New Mexico Oil Conservation Commission (“OCC”). This Pre-Hearing Statement provides a summary of proposed modifications with the reasons therefore and a summary of witness qualifications and testimony and the estimated time for that testimony.

II. EDF has Significant Interest in this Proceeding

EDF is a national membership organization with more than 2.5 million members residing throughout the United States and more than 18,000 residing in New Mexico, many of whom are deeply concerned about the pollution emitted from oil and natural gas sources. EDF has a strong commitment to sound science, collaborative efforts with industry partners, and market-based solutions to the most pressing environmental and public health challenges. In New Mexico, EDF participated as a member of the Methane Advisory Panel (“MAP”), which led to the creation of the MAP White Paper. EDF submitted comments regarding the Oil Conservation Division’s (“OCD”) July 2020 draft venting and flaring rules, NMAC 19.5.27.1. et seq.

EDF is home to numerous oil and gas experts. EDF scientists have participated in 35 peer-reviewed studies designed to measure methane emissions from sources throughout the oil and natural gas supply chain. Three of these studies involved sites in the Permian Basin in New Mexico. Through its participation in these studies, EDF scientists have developed a deep and precise understanding of the sources of methane pollution across the supply chain, as well as of the available technologies and approaches to reduce emissions.

EDF lawyers and policy analysts have participated in the development and implementation of state, national and international rules to limit methane and other hydrocarbons from oil and gas sources for over a decade. As part of these efforts EDF has gained extensive knowledge of the various regulatory approaches taken in varying jurisdictions as well as of the costs and benefits of methane and waste reduction rules.

OCC has a statutory duty to prevent waste and address pollution from oil and natural gas facilities under the Oil and Gas Act (“Act”), which details OCC’s “duty to prevent waste prohibited by this act and to protect correlative rights” N.M. Stat. Ann. § 70-2-11 (2019). Indeed, courts have found prevention of waste to be one of the OCC’s *primary and major* duties. *Santa Fe Exploration Co. v. Oil Conservation Com'n of State of N.M.*, 835 P.2d 819 (1992) (“The Oil and Gas Act gives the Commission and the Division the two major duties: the prevention of waste and the protection of correlative rights.”) (Exhibit 1); *Swepi, LP v. Mora County*, N.M., 81 F.Supp.3d 1075, 1196 (D.NM 2015) (“*The Oil and Gas Act is focused primarily on the prevention of waste and the drilling and maintenance of oil-and-gas wells.*”) (Exhibit 2); *El Paso Natural Gas Co. v. Oil Conservation Commission*, 414 P.2d 496 (1966) (“A review of the history of our oil and gas legislation reveals the *primary concern in eliminating*

and preventing waste in the pool so far as it can practicably be done, and next the protection of the correlative rights of the producers from the pool.”) (*emphasis added*) (Exhibit 3).

Flaring and venting of natural gas incontrovertibly constitutes surface waste. The Act defines surface waste” to include "***the loss or destruction, without beneficial use, resulting from*** evaporation, seepage, leakage or fire, especially such loss or destruction incident to or resulting from the manner of spacing, equipping, operating or producing, well or wells, or incident to or resulting from the use of inefficient storage or from the production of crude petroleum oil or natural gas in excess of the reasonable market demand” N.M. Stat. Ann. § 70-2-3 (2019). (*emphasis added*). Venting gas constitutes a loss as the gas is simply vented straight to the atmosphere. Combustion and flaring are forms of destruction.

Further, the Act grants OCC the power to “regulate the disposition of nondomestic wastes resulting from the exploration, development, production or storage of crude oil or natural gas *to protect public health and the environment*; and [] to regulate the disposition of nondomestic wastes resulting from the oil field service industry, the transportation of crude oil or natural gas, the treatment of natural gas or the refinement of crude oil *to protect public health and the environment*” N.M. Stat. Ann. § 70-2-12 B(22) & (23) (2019) (*emphases added*). The Act clearly dictates OCD’s duty to minimize waste and by regulating waste, to protect public health and the environment.

III. EDF’s Proposed Modifications

Exhibit 4 details EDF's suggested revisions to the draft OCD rule. EDF's technical witnesses, Tom Alexander and David Lyon, along with Jon Goldstein, will explain the basis for EDF's proposed revisions.

IV. EDF Will Present Three Witnesses in this Proceeding

a. EDF will present Jon Goldstein

As shown in his attached resume, (Exhibit 5), Mr. Goldstein will testify as a non-technical witness. Since 2012, Mr. Goldstein has served as EDF's Director of Regulatory and Legislative Affairs. Prior to EDF, Mr. Goldstein served as Cabinet Secretary of the New Mexico Energy, Minerals and Natural Resources Department and Deputy Secretary of the state's Environment Department where he both strengthened regulation of the oil and gas industry and promoted the deployment of renewable sources of energy. Mr. Goldstein also served on the New Mexico Renewable Energy Transmission Authority, Finance Authority and Water Trust Board and was elected chair of the New Mexico Water Quality Control Commission and Mining Commission. Mr. Goldstein has a master's degree in public policy and a certificate in Science, Technology, and Environmental Policy from Princeton University's School of Public and International Affairs and a bachelor's degree in history from Trinity College. Mr. Goldstein also serves as a board member of the State Review of Oil and Natural Gas Environmental Regulations.

Mr. Goldstein will address three subjects in his testimony. First, he will address the Governor's Executive Order on Addressing Climate Change and Energy Waste Prevention and the need for the OCC and OCD to commit to bold action to reduce methane waste. Mr. Goldstein will testify that OCC's commitment to banning routine flaring and venting during production, as OCD has proposed in NMAC 19.15.27.8.A, is a fundamental and essential pillar of a leading waste reduction rule. Lastly, Mr. Goldstein will address how OCD's proposed waste reduction measures will secure critically needed funds for state and local budgets.

Mr. Goldstein will address Governor Michelle Lujan Grisham's commitment, through an executive order, to reduce methane emissions and prevent waste as part of the state's efforts to combat climate change. He will emphasize the Governor's goal of reducing statewide greenhouse gas emissions by at least 45 percent by 2030 compared to 2005 and her directive to state agencies to develop "a statewide, enforceable regulatory framework to secure reductions in oil and gas sector methane emissions and to prevent waste from new and existing sources and to enact such rules as soon as practicable." (Exhibit 6). Mr. Goldstein will highlight that OCD's actions will be critical to meet this goal as, according to state data, 53% of industrial greenhouse gas emissions come from the oil and gas sector (generating 60 million metric tons in 2018, roughly four times the previous estimate of these emissions), causing New Mexico's Interagency Climate Change Task Force to conclude that a statewide methane regulatory framework is the "highest priority for New Mexico." (Exhibits 7, 8). Mr. Goldstein will note that EDF's estimate of methane emissions from the oil and gas sector is considerably higher than industry reported data, as EDF's technical expert, David Lyon will discuss in his testimony.

Mr. Goldstein will highlight the need for bold action to enact leading methane rules and will emphasize that banning routine venting and flaring is necessary to meet the Governor's emission reduction targets and to prevent waste, as required by the New Mexico Oil and Gas Act. Accordingly, Mr. Goldstein will discuss EDF's support of OCD's clear prohibition on routine venting and flaring during production in NMAC 19.15.27.8.A. Mr. Goldstein will address support for the 98% gas capture requirement in NMAC 19.15.27.9. as an important pillar of OCD's multi-pronged approach to ending wasteful venting and flaring. Mr. Goldstein will then discuss EDF's recommendation that OCD deny an operator an APD if the operator is not in compliance with the prohibition on routine flaring and venting or its natural gas capture

requirement as a way to ensure enforcement of the ban on routine flaring and venting during production and the gas capture requirements.

Finally, Mr. Goldstein will detail how the OCD's proposed waste reduction measures will secure critically needed funds for state and local budgets. He will explain how EDF calculated that operators, through systematic venting, leaking, and flaring, lose at least \$271 million worth of natural gas annually (including about \$75 million from flaring alone). He will show how this calculation is based on EDF's estimate that operators waste 92 billion cubic feet of natural gas a year valued at \$2.98/Mcf (per thousand cubic feet). (Exhibit 9). Natural gas that is not wasted can be used or sold, putting more money in operators' pockets and contributing taxes and royalty payments to the state and local governments in New Mexico. Mr. Goldstein will explain that as long as this waste is allowed to occur, money that would be collected through taxes and royalties is not available to fund schools, infrastructure, or other public services. Mr. Goldstein will explain that EDF estimates that the state of New Mexico is losing approximately \$43 million in state tax and royalty revenue annually due to the wasteful practices of venting, flaring, and leaking natural gas.

Mr. Goldstein's resume and reliance documents will be offered in conjunction with his testimony. EDF anticipates that Mr. Goldstein's direct testimony will take approximately thirty minutes.

b. EDF will present David Lyon

As indicated by his attached resume, Mr. Lyon has over a decade of experience with methane science, emissions inventories, and the oil and gas sector, including over eight years employed at EDF. Mr. Lyon earned a bachelor's degree in biology from Hendrix College, a master's degree in forestry from the University of Kentucky, and a PhD in environmental

dynamics from the University of Arkansas. His doctoral research was on the quantification, assessment, and mitigation of methane emissions from superemitters in the oil and gas supply chain. Prior to working at EDF, Mr. Lyon was employed as the environmental program coordinator at the Arkansas Department of Environmental Quality where he led the state's emissions inventory program and managed a project to develop and implement a multi-state consortium web-based emissions inventory reporting system. Mr. Lyon also has significant experience teaching fundamentals of air pollution as a lecturer teaching at the University of Arkansas at Little Rock and as a graduate assistant. Mr. Lyon has published extensively on the topics of aerial hydrocarbon surveys, superemitters, and methane emissions, inventories, and leak detection technologies in peer-reviewed publications. (Exhibit 10).

Mr. Lyon's testimony will address four subjects. First, he will provide background information on methane and other pollutants emitted from oil and natural gas operations and discuss how venting and flaring contributes to harmful air pollution that contributes to climate change and poor air quality. Second, Mr. Lyon will present data from recent scientific studies quantifying emissions from the oil and gas industry and address estimates of methane emissions in New Mexico due to venting, leaking, and flaring. Next, he will discuss how EDF studies demonstrate the need for assurance that flares function at 98% or better, which includes auto-igniters and continuous pilot light as well as other practices such as better engineering design and frequent inspections. Lastly, Mr. Lyon will discuss EDF's suggested revisions to the ALARM provisions intended to ensure the credits are based on reliable estimates of emissions, subject to third-party verification. Mr. Lyon will also discuss EDF's suggested modifications to the reporting provisions intended to remove any disincentives such requirements present to an operator choosing to conduct an inspection using ALARM.

Mr. Lyon will explain how methane is a dangerous and powerful greenhouse gas (“GHG”) that is 87 times more potent than carbon dioxide on a per molecule basis in a 20-year timeframe, and up to 36 times more potent over a 100-year time frame. (Exhibits 11, 12, 13). Methane is a short-lived GHG, lasting only approximately a decade (Exhibit 14), which makes reducing methane emissions critical for achieving short-term GHG reductions and slowing the rate of climate change. (Exhibit 15). Mr. Lyon will detail how methane emissions account for approximately 25% of manmade global warming being experienced today, and how the oil and gas industry is the largest industrial source of methane emissions. (Exhibits 12, 16). Mr. Lyon will then discuss peer-reviewed scientific studies that have found measured emissions to be significantly higher than operator reported data to EPA, including a recent study involving site-level measurements of over 70 Permian Basin well pads that found methane emissions are higher than in most other measured basins. (Exhibits 17, 18, 19, 20). He will also discuss studies demonstrating that EPA estimates of emissions consistently underreport emissions as they rely on bottom-up approaches that fail to account for most abnormal emissions. (Exhibit 21). Mr. Lyon will next discuss studies that have identified very significant sources of methane and VOC emissions, so called superemitters, caused by abnormal operating conditions (Exhibits 22, 23). He will emphasize that reducing methane from oil and gas operations is absolutely critical to combating and slowing the rate of climate change

Mr. Lyon will then discuss how venting and flaring contribute to air pollution in a number of ways, including emitting methane, carbon dioxide, oxides of nitrogen (“NO_x”), volatile organic compounds (“VOCs”), hazardous air pollutants (“HAPs”), and black carbon. Methane and carbon dioxide are two powerful greenhouse gases that significantly contribute to climate change. Mr. Lyon will explain that venting and flaring of associated gas from wells in

New Mexico contributed 14,000 metric tons of methane in 2019 (Exhibit 9), but, that number is likely even greater because emissions of uncombusted methane from unlit flares are significantly higher than previously thought (Exhibit 24). He will further explain how burning natural gas in flares produces carbon dioxide, while also emitting NO_x and VOCs which can contribute to adverse health impacts when it leads to dangerous ground-level ozone formation. Mr. Lyon will discuss EDF's estimate that oil and gas facilities in New Mexico contribute more than 337,500 metric tons of VOCs annually (Exhibit 9). Mr. Lyon will explain how exposure to elevated concentrations of ozone lead to serious, adverse health effects, including asthma, increased emergency room visits, and premature death - impacts that are particularly severe in sensitive populations, like children and the elderly. Ozone also causes direct harm to the environment by impeding plant growth and vitality and decreasing crop yield. (Exhibit 25).

On a larger scale, Mr. Lyon will highlight how air quality in six New Mexico counties is dangerously close to failing to meet federal health-based standards for ozone (Exhibit 26). These counties represent 72.9% of wells and 83.4% of production, based on EDF's preliminary analysis (Exhibit 27). Mr. Lyon will emphasize how much more must be done to protect healthy air and to protect against air quality degradation in New Mexico because robust rules that limit flaring are essential to protecting air quality.

Mr. Lyon will also explain how the NO_x pollution emitted from flares contribute to poor visibility conditions in Class I areas (national parks and wilderness areas) and nitrogen deposition in sensitive ecosystems. New Mexico is home to nine mandatory Class I federal areas protected by the Regional Haze Program that will benefit from improved visibility as a result of decreases in flaring (Exhibit 28). Further, Mr. Lyon will detail how flaring also releases HAPs, including known carcinogens such as benzene and particulate matter ("PM") (Exhibit 29). HAPs

and PM contribute to cancer and other serious health effects, including adverse impacts to the immunological, neurological, reproductive (e.g., reduced fertility), developmental, and respiratory systems, as well as other significant health problems, including premature death (Exhibits 30, 31).

Mr. Lyon will explain how flaring also contributes to black carbon—another driver of climate change (Exhibit 32). Black carbon is a major component of airborne particles that are commonly referred to as “soot.” He will detail how black carbon is a product of incomplete combustion of fossil fuels and biomass, and its absorption properties make it a warming influence on climate. It is also harmful to human health when inhaled. (Exhibit 33).

Mr. Lyon will next discuss EDF's estimate that oil and gas activities in New Mexico contribute over 1.1 million metric tons of methane annually (Exhibit 9). Mr. Lyon will discuss EDF's methodology for calculating these emissions which relied on a combination of peer-reviewed satellite data and methods in tandem with research studies (Exhibit 9). Mr. Lyon will discuss the fact that leaks, equipment malfunctions and other avoidable issues are responsible for the majority of emissions. He will also note that emerging technologies and methods, such as flyovers and continuous emission monitors, can be useful tools in identifying leaks from oil and gas facilities provided that such alternative methods can achieve equivalent emission reductions as traditional leak detection methods such as optical gas imaging cameras (Exhibits 34, 35). Mr. Lyon will then note that, in his opinion, frequent inspections using reliable instruments, such as optical gas imaging cameras, as part of a leak detection and repair program, are the best way to reduce emissions associated with equipment malfunctions. He will also testify that limitations on venting during completion and production activities, as OCD has proposed, are essential to reducing emissions. Mr. Lyon will also note that limiting the frequency and duration of venting

during well and other equipment maintenance activities, as EDF proposes in NMAC 19.15.27.8.C.(1) (limits to venting during initial completion operations), and 19.15.27.8.D.(3) (limits to venting during liquids unloading and well clean-up activities) and 19.15.27.8.D.(6)(f) (limits to venting during bradenhead testing) are essential to reducing methane emissions.

Mr. Lyon next will explain EDF and NMED studies involving aerial surveys of oil and gas facilities in the Permian Basin demonstrating the need for operators to use continuous pilot lights and auto igniters to ensure flares stay lit. Mr. Lyon will describe these studies that found flares routinely malfunction, releasing significant tons of climate altering pollution into the atmosphere. This will include a review of three separate helicopter surveys, conducted by EDF researchers between February and early July of 2020, which examined hundreds of flares in the Permian Basin. Mr. Lyon will explain how researchers found that 11% of flares surveyed had combustion issues, including 5% that were unlit and venting gas. In one of the helicopter surveys, it was found that 25% of unlit or partially lit flares identified during a prior survey remained problematic at subsequent surveys. These findings indicate that malfunctioning flares are a recurring and persistent problem (Exhibit 20, 36, 37). He will also explain how a recent New Mexico Environment Department study similarly found that 2.5% of flares surveyed were venting completely unlit (Exhibit 38). Mr. Lyon will underscore the need for routine inspections of flares, which can be done as part of regular leak inspections, and that ensure minimal downtime. Mr. Lyon will detail EDF's support for requiring a design destruction efficiency of at least 98% for all enclosed flares used during completion and production activities, following the same action taken by two Colorado agencies, the AQCC (Exhibit 39) and COGCC (Exhibit 40). Mr. Lyon will explain that burning natural gas in flares produces carbon dioxide but that because no flares are 100% efficient in combusting natural gas, flaring

also is a significant source of methane emissions and that this is particularly the case when flares are operated improperly or allowed to extinguish. Mr. Lyon also will explain the importance of EDF's suggestion in NMAC 19.15.27.8.E(8) requiring operators to provide a certification that all flares or combusters will have sufficient and consistent gas flow and heat content to achieve a 98% design destruction efficiency as another method to ensure flares and combusters stay lit and operate as intended.

Mr. Lyon will emphasize that to address the problem of partially lit and unlit flares identified in recent EDF and NMED flyovers of the Permian, all existing flare stacks should be expeditiously retrofitted with an automatic ignitor or continuous pilot. Mr. Lyon will also explain that the Permian studies further support EDF's recommendation that operators of existing wells that produce less than 10 barrels of oil or 60,000 cubic feet of natural gas must also retrofit flares quickly (i.e., within 12 months of the effective date of the rule).

Mr. Lyon will also address and explain the basis for EDF's proposed modifications to the ALARM provisions. EDF suggests OCD apply the third-party verification provision contained in 19.15.27.9.C. to the ALARM credits for which an operator may seek OCD approval pursuant to 19.15.27.9.B.(4). Emission detection and quantification approaches are diverse and produce data of varying accuracy and spatial and temporal resolution. (Exhibits 41, 42). Since operators may apply a credit for the amount of a leak isolated and repaired against its estimate of lost gas for purposes of documenting compliance with the gas capture requirements, it is essential that the OCD and the public have confidence in the credit amount. Second, Mr. Lyon will discuss the importance of specifying reliable methods for estimating emissions in 19.15.27.8.F.(5). Mr. Lyon will note that, in order for operators to have an incentive to use the ALARM provision, the methods operators use to estimate emissions must be sound and reliable. Otherwise, an

overflight is likely to reveal that site-level emissions are higher than what the operator has reported to OCD, and may indicate non-compliance with the gas capture requirements. Mr. Lyon will discuss EDF's suggestions for improving the accuracy of the volumetric reports (contained in NMAC 19.15.27.8. F.(5)) operators must submit in order to demonstrate compliance with the gas capture requirements. These methods should also be used by the operator when estimating the amount of a leak or release discovered with ALARM and for which the operator seeks a credit against its lost gas estimate.

Mr. Lyon's resume, attached as Exhibit 11, and his reliance documents will be offered in conjunction with his testimony. The EDF anticipates that Mr. Lyon's direct testimony will take approximately forty minutes.

c. *EDF will present Tom Alexander*

Tom Alexander will present technical testimony in support of EDF's proposed modifications to 19.15.27.1. Mr. Alexander is a Technical Consultant for EDF. Mr. Alexander has over 39 years of comprehensive technical, operational and health safety and environmental experience in the oil and gas industry and is recognized as an industry expert in unconventional resource development. Mr. Alexander assisted in the development of leading-edge regulatory frameworks within Southwestern Energy, New Brunswick and North Carolina.

From 2012 to 2016, Mr. Alexander served as Vice President of Health Safety & Environment for Southwestern Energy Company (SWN). Mr. Alexander also worked for SWN's Canadian subsidiary, Southwestern Resources Canada in New Brunswick, Canada as the General Manager. In total Mr. Alexander worked for SWN for 18 years as a staff production and completion engineer, team leader for their Fayetteville Shale discovery team and Completion Manager. Prior to SWN he worked for New Prospect Company and Revere Corporation in Fort

Smith, Arkansas, Habersham Energy Company in Englewood, Colorado, Southwest Operating, Incorporated and Altair Energy Corporation in Tyler, Texas and Schlumberger Offshore Services in Houston, Texas. From 1975 to 1981, Mr. Alexander served in the United States Air Force as a B-52H Navigator and Radar Navigator.

Mr. Alexander received a Bachelor of Arts, Psychology from Wake Forest University (1973). Mr. Alexander did post-graduate work in chemistry and genetics at Duke University (1973). Mr. Alexander received a Master of Science, Mining Engineering (1981) and a Bachelor of Science, Mining Engineering (1981) from South Dakota School of Mines and Technology. Mr. Alexander completed the course work for Master of Arts, Environmental Policy and Management at the University of Denver (1994). (Exhibit 43).

Mr. Alexander will testify in support of EDF's modifications to the venting and flaring rules. First, Mr. Alexander will discuss the proposed definition of delineation well in 19.15.27.7.F. (referencing the citation as proposed by OCD), and EDF suggested definition of "certify". Second, Mr. Alexander will testify regarding the completion and recompletion provisions contained in 19.15.27.8.C. Third, Mr. Alexander will discuss certain of the exceptions to the ban on routine flaring and venting in 19.15.27.8.D, including the exception for conducting well unloading activities and delineation wells. Fourth, Mr. Alexander will discuss EDF's suggested additions to gas capture plans intended to ensure the OCD has all relevant information to ensure operators can meet the requirements of its venting and flaring rules. Last, Mr. Alexander will discuss the importance of requiring enforceable gas capture plans as part of approval of an APD and ensuring that operators are in compliance with gas capture requirements as a condition of approving an APD

Mr. Alexander will first discuss EDF's suggestion that the definition for a delineation well is a more appropriate description for an exploratory well as exploratory wells are wells drilled outside the boundary of a known pool whereas delineation wells are drilled to test the boundary of a known pool. For this reason, Mr. Alexander will explain, EDF suggestions changing the definition of delineation well to exploratory well in NMAC 19.15.27.7.(F), as proposed by OCD.

Mr. Alexander next will testify that an accountable official should sign each certification required by the draft rules as a way to ensure compliance. Mr. Alexander will discuss that, in his experience, requiring certification by an individual accountable for the activities or operations subject to the certification, provides greater certainty that the information in the certification is accurate and will ensure that the activities subject to the certification are completed as specified.

Mr. Alexander will then discuss EDF's suggested modifications to the completion requirements in NMAC 19.15.27.8.C.(1) which track rules recently promulgated by the Colorado Air Quality Control Commission. (Exhibit 39). Specifically, Mr. Alexander will detail that following drill-out operators are able to safely route flowback fluids to enclosed, controlled flowback vessels provided such vessels have pressure relief systems to accommodate any safety issues presented by significant changes in pressure or flow. Mr. Alexander will discuss the Colorado definitions of "Air Pollution Control Equipment," "Drill out," "Flowback" and "Flowback Fluids", that are referenced in EDF's proposed completion requirements. He will also discuss the importance of routing any emissions from a pressure relief system to a flare equipped with an auto-igniter or continuous pilot light to minimize venting and emissions during completions.

Mr. Alexander next will detail EDF's proposed revisions to NMAC 19.15.27.8.D.(3) and (5). Specifically, Mr. Alexander will discuss the importance and feasibility of requiring operators to use an automated control system, such as a plunger lift, where technically feasible, to minimize venting during well unloading or clean ups, as EDF proposes in NMAC 19.15.27.8.D.(3). Mr. Alexander will then discuss EDF's suggestion that operators notify OCD 48 hours in advance of well unloading or clean ups, where feasible. Mr. Alexander will discuss that well unloading or clean up events can lead to significant emissions and waste if operators do not employ best management practices, such as ensuring that operators remain onsite during manual unloading. Mr. Alexander will note that, in his opinion, providing notice to OCD so that inspectors may be present during manual unloading, will help ensure compliance with the rule. Mr. Alexander will also testify that Colorado's Oil and Gas Conservation Commission recently adopted a similar notice provision. (Exhibit 40).

Mr. Alexander then will testify that in his experience most operators can conduct a test to determine if an exploratory well can produce in paying quantities within 60 days, not 12 months, and for that reason EDF suggests the allowable duration of flaring or venting from a delineation (exploratory) well be reduced to 60 days, with the ability of the operator to request more time if necessary, provided adequate technical reasoning is submitted.

Mr. Alexander next will testify as to the basis for EDF's suggestion that OCD limit the duration of venting during bradenhead testing to 30 minutes, if practicable, as this is a sufficient amount of time to test the integrity of well casing in most cases.

Mr. Alexander next will testify as to the basis for EDF's suggested additions to the gas management plan requirements in NMAC 19.15.27.9.D.(1). Mr. Alexander will discuss that EDF's suggestions that operators provide information on anticipated safety risks that will require

the operator to allow gas to escape during drilling, a description of operational best management practices used during planned maintenance, and procedures the operator will use to reduce the frequency of well liquids unloading events are intended to ensure that the operator will take all practicable steps to minimize waste and emissions during these activities. Mr. Alexander will further explain the basis for EDF's suggestion that operators provide information on the anticipated volumes of liquids and gas production and a description of how separation equipment will be sized to optimize gas capture; namely, that this information is necessary for OCD to ensure that operators are designing their facilities in a way that will help reduce the incidence of excess emissions from controlled storage tanks due to the use of undersized separation equipment. Mr. Alexander will note that the Colorado Oil and Gas Conservation Commission recently included all four of these provisions in its gas capture plan requirements in Rule 903.(e)(1).B.v.-viii. (Exhibit 40).

Lastly, Mr. Alexander will explain the rationale for EDF's suggestion that OCD deny an APD if the operator is not in compliance with its gas capture requirements or if the operator does not have a plan to capture its produced gas at the time a well is spud. Mr. Alexander will discuss that in his experience prudent operators do not drill wells for which the operator does not have a plan to capture any produced gas. Mr. Alexander will further note that the rule language in NMAC 19.15.27.8.A and D expressly prohibits routine flaring or venting during production other than from delineation (i.e., exploratory) wells and as such, approval of an APD is contrary to this express language. Mr. Alexander will discuss his opinion that allowing an operator to drill, complete and produce in the absence of compliance with this provision is inconsistent with the express language of the rule as well as its intent. Furthermore, Mr. Alexander will note that an important way to ensure operators are meeting their gas capture targets is to require

compliance with gas capture targets as a pre-condition to obtaining a new permit to drill. Knowing that approval will be withheld if operators are not in compliance with statewide gas capture targets can help incent operators to remain on track with respect to their targets.

Mr. Alexander's resume, attached as Exhibit 43, and his reliance documents will be offered in conjunction with his testimony. The EDF anticipates that Mr. Alexander's direct testimony will take approximately one hour.

IV. Conclusion

On the basis of the testimony of these witnesses, EDF urges OCD to adopt the changes that EDF has proposed (redline attached as Exhibit 4) to the regulation amendments proposed by OCD.

Dated: December 17, 2020

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Elizabeth Paranhos

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ENVIRONMENTAL DEFENSE FUND'S LIST OF EXHIBITS

1. *Santa Fe Exploration Co. v. Oil Conservation Comm'n of State of N.M.*, 835 P.2d 819 (1992)
2. *Swepi, LP v. Mora County*, N.M., 81 F.Supp.3d 1075, 1196 (D.NM 2015)
3. *El Paso Natural Gas Co. v. Oil Conservation Comm'n*, 414 P.2d 496 (1966)
4. EDF's proposed redline of OCD rules.
5. Resume of Jon Goldstein
6. Executive Order 2019-003 on Addressing Climate Change and Energy Waste Prevention (Jan. 29, 2019)
7. New Mexico Climate Strategy, Initial Recommendations and Status Update (2019)
8. New Mexico Climate Strategy, 2020 Progress and Recommendations
9. New Mexico Oil & Gas Data, New Analysis Reveals Persistent Problem (updated November 2020), <https://www.edf.org/nm-oil-gas/>
10. Resume of David R. Lyon, Ph.D.
11. Wuebbles, Donald et al., U.S. Glob. Change Research Program, *Climate Science Special Report (CSSR)* (fifth order draft) (final clearance June 28, 2017), https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf
12. Myhre, Gunnar et al., *Anthropogenic and Natural Radiative Forcing in: Climate Change 2013: The Physical Science Basis*. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, ch. 8, https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf.
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