From:	Methanestrategy, NM, NMENV
To:	Spillers, Robert, NMENV
Subject:	Fw: 3 Bear Energy Comments on NMED Ozone Rule
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Attachments:	3 Bear Comments on NMED ozone rule.pdf

From: Scott Spicher <scott@3bearllc.com>
Sent: Wednesday, September 16, 2020 12:51 PM
To: Methanestrategy, NM, NMENV; NMOAI, NMENV
Cc: Liz Klein; Chris Colclasure
Subject: [EXT] 3 Bear Energy Comments on NMED Ozone Rule

Please find our comments attached, and thank you for the opportunity.

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September 16, 2020
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SUBMITTED VIA EMAIL to nm.methanestrategy@state.nm.us and nm.oai@state.nm.us

Re: 3 Bear Energy, LLC's Comments on the New Mexico Environment Department's Draft Ozone Precursor Emissions Rules

3 Bear Energy, LLC (3 Bear) is pleased to submit comments on the New Mexico Environment Department's (NMED's) draft ozone precursor rules (Draft Rules). 3 Bear thanks NMED and staff for its work on the draft rule and its extensive public outreach and stakeholder engagement process. 3 Bear is a full-service midstream company that gathers, processes and treats oil, natural gas and produced water. The company operates produced water recycling facilities that provide oil and gas operators an alternative to consuming fresh water. 3 Bear supports cost-effective strategies that deliver real emission reductions to protect public health, improve air quality and prevent the designation of additional parts of New Mexico as an ozone nonattainment area. Our comments are intended to facilitate progress toward these shared goals.

NMED Should Consider the Cumulative Impact of the Proposed Rules on Regulated Entities

The Draft Rules address nearly every aspect of air emissions from oil and gas operations. The proposal would impose new requirements for equipment tagging, engines, turbines, compressor seals, control devices, equipment leaks, natural gas well liquids unloading, glycol dehydrators, heaters, hydrocarbon liquid transfers, pig launching and receiving, pneumatic controllers and pumps, storage tanks, workovers, stripper wells, facilities with the potential to emit less than 15 tons per year (tpy) of volatile organic compounds (VOCs), and evaporation ponds. The Oil Conservation Division is simultaneously proposing rules for venting, flaring and pipelines. Together the proposals transform the regulation of oil and gas operations in New Mexico.

We encourage NMED to consider the cumulative costs and compliance burdens of the Draft Rules. While the burdens of individual rules or categories of rules could be reasonable, the combined burdens are considerable, particularly for smaller operators. Compliance deadlines for the various categories of rules should be staggered and extended as appropriate to recognize the difficulty of complying with multiple new requirements.

Draft Rule Section 50.2.50.8, Definitions

Produced water should be defined separately from hydrocarbon liquids. This will allow NMED to tailor the regulations applicable to produced water without limiting the agency's authority or weakening its rules. While the Draft Rules do not define produced water, it is characterized as a type of hydrocarbon liquid. According to section 50.2.50.8.S, "hydrocarbon liquids means any naturally occurring, unrefined petroleum liquid and can include oil, condensate, produced water, and intermediate hydrocarbons."

Identifying produced water as a type of hydrocarbon liquid creates uncertainty and differs from New Mexico statutes. The Oil and Gas Act, NMSA 1978, § 70-2-33(K) (2019) defines produced water as a fluid that is an incidental byproduct from drilling for or the production of oil and gas. Yet "hydrocarbon liquids" within the meaning of the Draft Rules appear to include salable products and not incidental byproducts. Produced water has other important differences from hydrocarbon liquids. From an air emissions perspective, the VOC or methane content of produced water is much less than that of oil, condensate, or intermediate hydrocarbons.

Identifying produced water as a type of hydrocarbon liquid also differs from other states. Colorado defines hydrocarbon liquids to specifically exclude produced water. Colorado AQCC Reg. No. 7 Part D § I.B.16. This allows the state to customize the regulations for produced water and to adopt different control strategies than may be appropriate for condensate, crude oil, and intermediate hydrocarbon liquids. We encourage NMED to similarly exclude produced water from the definition of hydrocarbon liquids.

Tagging Emission Points With a Scannable Equipment Monitoring Information and Tracking Tag (EMITT) is Burdensome for Small Operators.

3 Bear and other operators have developed tracking systems that meet operational requirements but may lack the level of specificity contemplated in proposed § 20.2.50.12.A(6). Developing an EMITT Database and affixing EMITT tags to each unique emissions point removes operational flexibility by requiring operators to track equipment in a prescriptive manner. A large number of emission points will be subject to the EMITT requirements. The EMITT requirements apply to:

a. New and existing engines or turbines. § 20.2.50.13.B(9).

b. New and existing centrifugal or reciprocating compressors. § 202.50.14.B(5).

c. Each flare, combustion device, vapor recovery equipment, or other emission reduction technology or control device, including vapor recovery units.

§§ 20.2.50.15.B(3), 20.2.50.15.E(2)(b).

d. Each glycol dehydrator. § 20.2.50.18.B(3)(d).

e. Each natural gas-fired heater unit. § 20.2.50.19.B(4).

f. Each pig launcher and each pig receiver. § 20.2.50.21.B(3).

g. Each pneumatic controller and pneumatic pump with a natural gas bleed rate greater than zero. § 20.2.50.22.C(2) and (4).

h. Each new and existing hydrocarbon storage tank. § 20.2.50.23.B(8).

In addition to installing the physical tags on each covered emissions unit, operators must develop and populate a database of emission points. 3 Bear appreciates the potential benefits of automation but successfully manages its electronic recordkeeping systems without the additional step of installing QR labels or RFID tags. Existing regulations establish the data and records that operators are required to keep. NMED should not adopt additional rules mandating a particular method to keep records. If the state nonetheless adopts the EMITT rules, 3 Bear believes any statewide rollout of EMITT Databases and tags should be performed incrementally so that operators and regulators may identify and overcome system flaws before deploying the units at full scale. The one year compliance deadline is likely to create shortages in the supply of weatherproof EMITT tags and should be extended to two years.

The Standards for Control Devices Should be Technically Feasible

Draft Rule § 20.2.50.15.B(2) requires that "All pollution control equipment shall be adequately designed and sized to achieve the control efficiency rates required by this Part and to handle fluctuations in emissions of VOC or NOx." It is appropriate to require that pollution control equipment be suitable for the application. However, the term "designed" has the potential to be misinterpreted as requiring a detailed engineering design analysis rather than a more traditional exercise of engineering judgment that the control device is appropriate for facility conditions.

For example, in Colorado, a requirement that storage vessels and other operations "must be designed, operated and maintained so as to minimize emissions of volatile organic compounds to the atmosphere to the maximum extent practicable" resulted in a multi-year effort by the agency and stakeholders to develop design procedures. At the conclusion of this process the Colorado Department of Public Health and Environment, Air Pollution Control Division, published a 50-page guidance document describing an acceptable design process. CDPHE "Storage Tank and Vapor Control Systems Guidelines: Design, Operation and Maintenance" (2018). For control devices, this guidance addresses inlet pressure, pressure drop, device capacity curves and flowrate.

NMED's public presentations have not indicated that it intends this level of analysis, nor is it necessary. 3 Bear believe the following rule language more accurately captures NMED's intent and reduces emissions of ozone precursors and other hydrocarbons: "All pollution control equipment shall be suitable for the application based on engineering judgment and adequately sized to achieve the control efficiency rates required by this Part and to handle anticipated fluctuations in emissions of VOC or NOx."

In addition, the control device standards inadvertently establish a technically infeasible requirement to capture and control 100% of VOCs. Draft Rule § 20.2.50.15.B(5) requires that any flare or combustion device used to comply with the standards "shall at all times operate as a closed vent system that captures and routes all VOC emissions from equipment subject to regulation." The rule also requires that control devices shall combust or capture and route "all gas sent to the device." Draft Rule § 20.2.50.15.C(1)(a) (open flares); § 20.2.50.15.D(1)(a) (enclosed combustion devices and thermal oxidizers); 20.2.50.15.E(1)(a) (VRUs) (emphases added). No combustion device achieves 100% control of VOC emissions. Some always pass through the device uncombusted. We recommend removing this impossible standard by deleting the word "all."

The Standards for Hydrocarbon Liquid Transfers Should Establish a Reasonable Threshold that Excludes Low Emitting Transfer Operations

a. Emission Thresholds and Transfers by Pipeline

Draft Rule Section 20.2.50.20.A(1) makes the standards for transferring hydrocarbon liquids applicable to "all new and existing hydrocarbon liquid transfer operations located at wellheads, tank batteries, gathering and boosting sites, natural gas processing plants, and transmission compressor stations . . . beginning on the effective date of this Part." Instead of subjecting all facilities to this rule, NMED should establish a reasonable applicability threshold. Facilities where the 12-month rolling average of VOC emissions from hydrocarbon liquid or produced water transfer operations are less than 5 tpy should not be required to control emissions from transfer operations.

To promote the use of low emitting designs, facilities that transfer hydrocarbon liquids or produced water by pipeline should be exempt from this requirement. Transferring hydrocarbon liquids or produced water by pipeline is inherently low emitting because it reduces or eliminates the opportunity for spills and reduces the number of access points or pressure relief devices that must be opened during the transfer. 3 Bear facilities rely primarily on pipelines and use truck transfer as a secondary capability. The proposed rule would require owners or operators to control emissions from secondary truck transfer operations regardless of how infrequently they are utilized. By doing so the proposal removes incentives for pipeline transfer and imposes costs

to control emissions from secondary equipment that may be rarely used. 3 Bear's proposed applicability threshold addresses this concern by allowing operators with low actual emissions from load-out and load-in activities to avoid obligations under the rule.

The Draft Rules apply to "hydrocarbon liquid" transfer operations, a term that is defined to include produced water. NMED's Draft Rules overlook important differences between transferring produced water and transferring condensate, crude oil, and intermediate hydrocarbons. Produced water has a much lower hydrocarbon content and may be produced in greater quantities than oil. 3 Bear's proposal accommodates these differences by subjecting transfer operations of hydrocarbon liquids and produced water to the rule while tying the applicability threshold to the 12-month rolling average of VOC emissions. This ensures that emissions are controlled regardless of the type of liquid being transferred but allows greater volumes of low-hydrocarbon produced water to be transferred without triggering the rule.

b. Supplemental Fuel Exemption

If produced water transfers will be regulated, NMED should exempt operations where combustion of the captured vapors requires supplemental fuel. Many vapor streams from produced water storage vessels and transfer operations have low hydrocarbon concentrations and a low heat content (btu/scf). Combustors and flares often require a heat content of at least 300 btu/scf to sustain combustion. The high moisture content and low hydrocarbon concentrations present in produced water vapor streams may preclude combustion without supplemental fuel to enrich the vapors.

Utilizing supplemental fuel negates the environmental benefit of controlling the emissions in at least two ways. First, some percentage of the supplemental fuel will pass through the combustor intact, replacing at least part of the emissions from the hydrocarbon liquids with emissions from unburned supplemental fuel. Second, combustion of the supplemental fuel causes NOx and CO_2 emissions that would not occur if the transfer operations were not controlled. For these reasons, the Colorado Air Quality Control Commission adopted a supplement fuel exclusion when it lowered storage tank emissions control thresholds in 2019. AQCC Reg. No. 7, Part D § II.C.1.c.(iii) ("Owners or operators of storage tanks for which the use of air pollution control equipment would be technically infeasible without supplemental fuel may apply to the Division for an exemption…"); *id.*, Statement of Basis and Purpose (Dec. 19, 2019) ("the Commission does not want to facilitate or encourage the use of supplemental fuel"). We encourage NMED to evaluate a similar approach.

c. Section 20.2.50.20, Hydrocarbon Liquid Transfers, Should be Revised to Improve Implementation

Operators cannot achieve full compliance on the rule's effective date, as required by Draft Rule § 20.2.50.20.A(1). Operators of the transfer facilities need a reasonable compliance period to make necessary modifications, train employees, establish recordkeeping systems, and revise contracts with service companies. Truck and rail fleet operators similarly need time to modify vehicles and conduct Method 27 inspections to ensure the transfer vessels are vapor tight. *See* Draft Rule § 20.2.50.20.C(3). The rule should allow two years for implementation because the large number of facilities subject to the rule and the construction delays resulting from COVID-19 will likely lead to equipment shortages.

The rule may make owners and operators of stationary sources liable for the actions of third parties contracted to perform load-out or load-in activities. The operator might have no direct business relationship with a subcontracted vendor or individual. Some of the transfer activities covered by the rule are carried out by a vehicle driver with no employees or representatives of the stationary source on site. For example, the facility owner must rely on the service company or driver to ensure the transfer does not begin until the vapor collection and return system is connected, check all liquid and vapor line connections for proper connection prior to commencing transfer operations, and operate all transfer equipment at a pressure that is less than the pressure relief valve setting of the receiving transport vehicle or storage tank. *See* Draft Rule § 20.2.50.20.B(2). The rule should therefore include an affirmative defense for operators who make good faith efforts to ensure vendor compliance.

The requirement in Draft Rule § 20.2.50.20.C(1) to conduct visual inspections of transfer operations should be periodic or should be tied to the loadout frequency. The rule should be revised so that inspections are not required to be performed "during transfer operations." Transfers via pipeline may be automated and there may be no personnel on site to inspect equipment "during transfer operations." Transfer facilities can be effectively inspected for leaks at times when transfer operations are not underway. Leaks of hydrocarbon liquids or produced water leave visual indicators that can be observed outside of active transfer operations.

If EMITT tags are required, Draft Rule § 20.2.50.20.C(5) should be clarified to say that operators need only install one EMITT tag for the loading or unloading rack and one for any associated emissions control device. Permits normally identify the entire loading or unloading rack as a regulated emissions point and it would be unreasonable to require tags on individual lines, pumps, or connectors.

Draft Rule Section 20.2.50.21, Standards for Pig Launching and Receiving

The requirement in the Draft Rules to reduce emissions from pig launching and receiving operations is limited to those "located within the property boundary." This limitation helps to balance the costs and benefits of the proposed rule. The proposed limitation helps to avoid

requiring operators to incur the cost of travelling to remote sites. It also recognizes that pig launching and receiving operations may be in locations where the owner or operator holds only an easement or surface access rights that do not permit equipment described in section 20.2.50.21.B.

However, the proposed language may create unintended ambiguities where different entities own the surface location and the pig launching and receiving operation. Gathering pipelines often locate launchers and receivers at a third party's wellhead site or tank battery. From the gathering system operator's perspective, these locations are remote sites. From the perspective of the owner or operator of the wellhead site or tank battery, such pig launchers and receivers are third party equipment not within its responsibility or authority to control. Split ownership may create circumstances where an emissions control device at the wellhead site or tank battery cannot be used by the pig launching and receiving operation. To alleviate these concerns, 3 Bear recommends revising section 20.2.50.21.A(1) as shown:

> All new and existing pipeline pig launching and receiving operations located within the <u>pipeline owner or operator's</u> property boundary at wellhead sites, tank batteries, gathering and boosting sites, natural gas processing plants, and transmission compressor stations are subject to the requirements of 20.2.50.21 NMAC.

Section 20.2.50.21.B(1) of the Draft Rule applies the pig launching and receiving standards to facilities with the potential to emit 1.0 tpy of VOC. This applicability threshold will subject many small facilities with low emissions to regulatory requirements that are not cost-effective. An applicability threshold of 5.0 tpy of VOC would avoid incurring expenses at the smallest facilities.

The nature of pig launching and receiving operations makes an applicability threshold of 5 tpy appropriate. Owners and operators of pig launching and receiving operations often provide conservative (high) estimates of the facilities' potential to emit (PTE) because emissions are variable. PTE is highly dependent on the frequency of pigging. The reported PTE may include a margin to allow for increased operations that are unlikely or unexpected but that would necessitate more frequent pigging and result in higher emissions.

The proposed threshold of 1.0 tpy VOC is unnecessarily stringent and not cost-effective. NMED's March 24, 2005 List of Insignificant Activities uses 1.0 tpy as the threshold below which an emissions unit, operation or activity is considered to be insignificant. While some activities with low individual emission rates can be numerous enough to cause significant air quality impacts, pig launching and receiving operations do not present this concern. Modifying

pig launching and receiving operations involves capital construction projects that may cost hundreds of thousands of dollars. This magnitude of costs cannot be justified for facilities with the potential to emit only 1.0 tpy of VOCs.

The Draft Rules would require owners and operators of pig launching and receiving operations to comply "beginning on the effective date of this Part." 3 Bear is concerned that immediate compliance may be infeasible. Some of the proposed requirements in Draft Rule § 20.2.50.21 require physical modifications that take time to plan and complete, such as the installation of liquids ramps, liquid drains, routing high pressure chambers to a low-pressure line or vessel, installing ball valve type chambers, or multiple pig chambers. Section 20.2.50.21.B(2)(b). Immediate compliance is not possible for facilities that need to install emissions control devices or other equipment to capture and reduce VOC emissions by at least 98%. This should be revised to provide a realistic compliance deadline of two years after the effective date.

The requirement proposed in Draft Rule § 20.2.50.21.C(2) to inspect for leaks immediately prior to the commencement of and immediately after the conclusion of each pig launching or receiving operation using EPA Method 21 or optical gas imaging (OGI) is burdensome. The timing mandate effectively requires operators to maintain their own OGI camera and trained inspector or to contract for a dedicated inspector who can always be available immediately before and after each pig launching or receiving operation. The annualized total equipment and labor costs of an OGI inspector have been estimated at approximately $194,000/year. Colorado Department of Public Health and Environment, "Cost-Benefit Analysis for Regulation Number 7" at 15, Table 14 (Nov. 29, 2019). Inspection costs could be significantly reduced by relaxing the timing requirement such that inspections could be performed once per year at each facility and not at the time of each pig launching operation.

The Standards for Evaporation Ponds in Section 20.2.50.26 Should be Reconsidered

3 Bear operates produced water recycling ponds that temporarily store water for use in hydraulic fracturing. The ponds hold water only for short periods of time before the water is transported to a hydraulic fracturing operation. Reusing produced water in oil and gas operations conserves New Mexico's water resources and diverts produced water from injection wells. The proposed requirements of 20.2.50.26 would hinder 3 Bear's ability to operate its water recycling ponds. The requirements are not cost-effective or technically feasible for operations at scale. Any rules to limit emissions from produced water evaporation or recycling ponds should be limited to measures that are proven to be effective and feasible, such as removing recoverable hydrocarbons from produced water before it enters the pond and skimming the surface of the water to remove liquid hydrocarbons that may accumulate.

Draft Rule § 20.2.50.26.B(3) requires the installation of an impermeable continuous barrier or cover that prevents VOC emissions. It also requires operators to collect VOCs and route VOCs to a control device. These requirements are infeasible. Impermeable continuous barriers or covers are costly, especially for larger ponds. They also pose operational challenges and cannot completely "prevent VOC emissions from being emitted to the atmosphere." Some VOCs will be emitted to atmosphere from uncovered gaps between the cover and the pond perimeter, especially as water level fluctuations move the outer edge of the cover toward or away from the perimeter. Covers impede the operator's ability to skim hydrocarbon liquids that may accumulate on the water's surface. Operators cannot collect VOCs from underneath the cover without a pressure differential to move vapors from underneath the cover to a control device. 3 Bear therefore opposes a requirement to cover evaporation ponds or water recycling ponds.

Section 20.2.50.26.B(2) requires that "[p]rior to unloading into a pond(s), all liquids shall be first loaded into a 20.2.50.23 NMAC compliant liquid storage tank designed to minimize subsequent VOC emissions from the pond." 3 Bear supports routing produced water through a storage vessel prior to unloading into a pond. This is a beneficial management practice to remove oil, condensate, and contaminants from the water. Recovered hydrocarbons can be sold.

The language of Draft Rule § 20.2.50.26.B(2) is nonetheless problematic. The requirement that tanks be "designed to minimize subsequent VOC emissions" raises concerns about inadvertently requiring a rigorous engineering design, as described above regarding the design of control equipment. Operators should be allowed to rely on engineering judgment to determine the storage tank capacity and layout needed to accommodate the expected throughput of produced water. In addition, the requirement to "minimize" subsequent VOC emissions could be misread to apply a control standard that is more stringent than intended. There is a risk this phrase could be misinterpreted to require unrealistic storage vessel capacity and dwell times. To resolve these concerns, 3 Bear recommends revising 20.2.50.26.B(2) as shown:

> Prior to unloading into a pond(s), all liquids shall be first loaded into a 20.2.50.23 NMAC compliant liquid storage tank to remove recoverable hydrocarbons.

3 Bear supports reasonable measures to reduce emissions from produced water evaporation and recycling ponds. Such measures must recognize the technical and operational limitations on controlling emissions from bodies of water. Control strategies should focus on proven best management practices such as removing recoverable hydrocarbons and skimming the water surface to collect accumulated hydrocarbon liquids.

Conclusion

3 Bear thanks the New Mexico Environment Department, Air Quality Bureau, for considering its comments on the proposed Oil and Natural Gas Regulation for Ozone Precursors. If you have questions please contact Liz Klein at lklein@3Bearllc.com.

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