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To Be Submitted Via Electronic-Mail
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Elizabeth Bisbey-Kuehn
Air Quality Bureau
New Mexico Environment Bureau
1190 St. Francis Dr.
Santa Fe, NM 87505

RE: Proposed Oil and Natural Gas Regulation for Ozone Precursor Rule

Dear Director Bisbey-Kuehn:

On behalf of Cimarex Energy Company (Cimarex), I am submitting comments on the Bureau's preliminary draft rules respecting the proposed oil and natural gas regulations for ozone precursors. Cimarex very much appreciates the opportunity to comment on these preliminary draft rules and especially your efforts to solicit comments and alternative suggestions that would make these rules more effective. We also want to acknowledge the hard work and patience your team has displayed in developing these preliminary draft rules, particularly amidst the COVID-19 pandemic.

Cimarex supports the Bureau's efforts to develop a set of rules that fairly, cost-effectively, and expeditiously reduce emissions of ozone precursors and to ensure that neither the southeast nor northwest parts of the state must be designated as nonattainment for the national ambient air quality standard for ozone. However, since no photochemical modeling data are available as of the date of these comments to assess a range of issues that are integral to understanding whether the proposed rules will be effective in reducing ambient ozone concentrations, Cimarex encourages the Bureau to provide an opportunity for stakeholder review and comment when the modeling data do become available.

Cimarex's specific comments and suggested revisions are set out below. Cimarex remains available to answer any questions these comments may inspire and to work with you going forward.

I. EMITT SYSTEM

Section 20.2.50.12(A)(6)-(7) would require operators to tag each "unit" with a tracking tag that is scannable with a hand held scanner (RFID or QR) that uniquely identifies the unit to which the tag is assigned. The data to be available to the inspector must provide (a) a unique identification number, (b) the facility coordinates, (c) the type of unit, (d) for equipment, the potential to emit, and (e) for control equipment, the controlled potential to emit and design control efficiency. In addition, the tag must be linked to a database that also is accessible to state inspectors and supplies the data required to be maintained pursuant to Section 20.2.50.12 NMAC.

Cimarex has a number of concerns with the EMITT proposal. First, while the definition of "unit" is unclear, Cimarex's initial estimate is that it would be required to tag almost 6,000 pieces of equipment with a tracking tag. That alone would be a significant undertaking. There would be additional layers of complexity. Some equipment, such as pneumatic controllers, is too small to permit attachment of a tracking tag. Cimarex has experimented with tagging some equipment solely for the purpose of tracking that equipment in their inventory. It has been Cimarex's experience that tags suffer from the effects of corrosion and exposure to harsh weather conditions; they frequently fall off, and they can inadvertently be painted over as operators work to maintain sites. In short, Cimarex's tagging experience suggests that it would be extremely difficult to maintain a physical tagging system such as envisioned in the preliminary draft rules.

Second, Cimarex's technology team has reviewed the EMITT proposal and has concluded that the company lacks the internal resources to develop a tagging system that can supply the required information using a hand-held scanner in the field. Cimarex has not yet identified a vendor that currently could readily supply a system that meets the EMITT information technology requirements. As a result, Cimarex would have to contract for the development of such a system. In the absence of universal standards, Cimarex assumes that every operator would develop or contract for a unique EMITT system. Cimarex is skeptical that a hand-held scanner could be developed that is capable of meeting all of the EMITT requirements.

The EMITT proposal also would require that the tag be linked to a database that is accessible to state inspectors and supplies all of the data required by Section 20-2.50.12 as well as any other data required by these regulations. In reviewing the preliminary rules, it appears the data base – linked to an EMITT tag – would have to contain the results of inspections and monitoring events including (a) the date and time of the monitoring event, (b) the name of the monitoring personnel, (c) the unit identification number, (d) the type of unit, (e) a description of any maintenance or repair activities, and (f) the results of the monitoring. In addition, the database also would have to maintain copies of the equipment manufacturer's maintenance or repair recommendations, the results of all parameter readings, records of emissions from malfunction events, and extensive information about any excess emissions. This implies a significant data management task that will only grow over time.

This entire EMITT system would turn on the feasibility of tagging almost 6,000 unique pieces of equipment, maintaining those tags, and developing an information technology system that is capable of meeting the requirements of the EMITT system. With all due respect, Cimarex has numerous reservations about the feasibility of this proposal. Cimarex is not confident that we, or any operator, can consistently fulfill the proposed requirements.

As an alternative, Cimarex suggests two things. First, there are no insuperable burdens to maintaining a database containing the information the preliminary draft rules require operators to

record and retain though development of such a database would take time to develop, test, and operate. Second, we suggest that the Bureau consider a voluntary technology development program in collaboration with several operators to determine the technical feasibility of establishing – and maintaining – an EMITT-like system. Such an investigation potentially could provide a number of benefits: are there off-the-shelf technologies capable of meeting the Air Bureau's requirements; are they durable enough to work in the field under harsh weather conditions; and is there a uniform standard that would simplify the task of developing both hardware and software?

II. MARGINAL WELLS

Cimarex appreciates the Air Bureau's proposal to limit the application of many of the preliminary draft rules to equipment located at stripper wells and at individual facilities with a site-wide total potential to emit of less than 15 tons per year of volatile organic compounds (VOCs). While these individual facilities may not be significant producers that yield significant revenues to the state and royalty owners, cumulatively they are a significant source of oil and natural gas, and the associated revenues, in the state of New Mexico. Moreover, they are just what the descriptor entails – they are marginal producers. Based on Cimarex's review, if the full scope of the Bureau's preliminary draft rules applied to marginal wells, it is highly likely that operators will seriously consider shutting in or even plugging and abandoning many of these facilities.

It also appears that after evaluating the broad suite of measures being contemplated to reduce ozone precursor emissions, imposing controls on marginal wells would yield far less in emissions reductions (and presumably in reducing ambient ozone concentrations) than would imposing controls on non-marginal wells. To corroborate that view, Cimarex urges the Bureau to consult with entities that have been systematically surveying facilities in oil and gas fields to assist operators in identifying and repairing fugitive emissions. For example, we understand that Kairos Aerospace, which has surveyed ninety-three percent of active oil and natural gas sites in the New Mexico portion of the Permian Basin, has learned that marginal wells tend to emit less than nonmarginal wells and that measured emissions at marginal wells are generally lower than at nonmarginal wells.

Finally, Cimarex urges that while imposing controls on marginal wells may be a necessary strategy if either the Permian or San Juan Basin is designated as nonattainment and classified as moderate or severe, it is inappropriate as a control strategy for areas not yet even designated as nonattainment. That is particularly true in this case where the Bureau has not completed and shared modeling data that disclose the emission benefits of various measures and their likely effect on ambient ozone concentrations.

III. STANDARDS FOR STORAGE TANKS

A. Threshold for Installing Controls. In the preliminary draft rules, Section 20.2.50.23 would provide that within one (1) year from the rules' effective date, operators must reduce emissions by at least ninety-five (95) percent from all existing storage tanks with an uncontrolled potential to emit greater than two (2) tons of VOCs per year and less than ten (10) tons per year (excluding marginal wells). The same preliminary draft rule would require that all existing storage tanks with an uncontrolled potential to emit greater than ten (10) tons per year of VOCs must install VOC emissions control devices with a destruction efficiency of 98%.

Cimarex is concerned that requiring installation of controls on tanks with a potential to emit between two (2) and ten (10) tons per year is not cost-effective and will result in the early shut-in or abandonment of a large number of wells in the state. Cimarex estimates that wells associated

with these tanks either have experienced or are experiencing significant production declines. Cimarex also estimates that these wells will continue to experience production declines and therefore declines in potential to emit for associated tanks.[1]

Installing controls on these tanks, especially for tanks in the lower tier of this category, will be capital intensive regardless of the amortization period used to assess costs per ton of emissions reduced. It is likely that in many cases, the revenues from the wells associated with these tanks will not support the capital expenditures required to install control devices and the operator/owner will choose to shut in many of the wells affected by this proposal.

It is difficult to identify an appropriate threshold for requiring installation of controls on existing tanks with low potential to emit. However, it is not unreasonable to assume that the emissions benefits of installing controls at the low end of the range would be modest and the cost per ton to reduce emissions significant. Moreover, the Bureau does not yet have either photochemical modeling or source attribution results that would shed light on whether tanks at this subset of wells warrant installation of emission controls.

Therefore, Cimarex suggests the Bureau reconsider the appropriate cut-off for requiring installation of controls at existing tanks once the modeling and source attribution study results are available. At that time, all parties will have better information with which to make these policy decisions.

B. Combined Capture and Combustion of 98%. It appears from the proposed rule that the Environment Bureau is proposing that all existing storage tanks with a potential to emit equal to or greater than ten (10) tons per year would be required to have a combined capture and control of volatile organic compounds of at least 98%. Present combustors have a manufacturer's guarantee of achieving a 98% destruction efficiency. However, the requirement to achieve a combined capture and control efficiency of 98% implies a goal of 100% destruction efficiency. To achieve that, Cimarex would have to consider installing redundant control devices or find flares that provide a higher combustion efficiency; it is not clear that that is feasible from an operational standpoint. Cimarex suggests that instead the Bureau should consider aligning its regulations in this respect with the requirements of New Source Performance Standards OOOO and OOOOa.

IV. EQUIPMENT LEAKS

Section 20.2.60.16(c)(2)(b) of the preliminary draft rules would prescribe the frequency of mandatory operator inspections of well facilities and tank battery facilities. It would require annual inspections at existing and new facilities with a potential to emit of less than two (2) tons per year of VOCs, semi-annual inspections at new and existing facilities with a potential to emit of greater than two (2) tons per year but less than five (5) tons per year, and quarterly at new and existing facilities with a potential to emit of more than five (5) tons per year.

Cimarex believes that the thresholds outlined in this section of the preliminary draft rules may not be cost-effective and may be unnecessarily stringent. These requirements certainly would require operators to add and train new employees, imposing new costs on operators. In addition, Cimarex has been informed of two-month delays in acquiring a single new OGI

[1] Cimarex understands that the Colorado Air Quality Control Commission recently adopted stringent new thresholds for requiring installation of emissions controls at new and existing hydrocarbon liquid and produced water storage tanks. However, those limits were adopted for a nonattainment area that will soon be classified as serious. Conversely, New Mexico is working to avoid designation of two parts of the state as nonattainment in the first instance. New Mexico may be able to avert such a designation and to begin reducing ambient ozone levels in those parts of New Mexico without adopting such onerous measures.

camera; it is reasonable to assume that significant new demand for such cameras would lead to significant supply bottlenecks. And finally, Cimarex believes that it would be a mistake to adopt a set of thresholds for new facilities that differs from that outlined in the New Source Performance Standard OOOOa adopted in 2016. Doing something different would create confusion and additional recordkeeping burdens.

Cimarex urges the Bureau to refrain from setting thresholds until the results of the Bureau's photochemical modeling and source attribution are available and can be carefully analyzed. Cimarex submits that those data will be invaluable in setting appropriate inspection thresholds.

V. STANDARDS FOR ENGINES AND TURBINES

Cimarex generally supports the requirements of Section 20.2.50.13, including the requirement to phase out higher emission engines. However, Cimarex notes that this section would require operators to do emissions tests on all internal combustion engines. We have a significant concern with one part of this section. It appears the proposal would require emissions testing of engines with a horsepower of less than 100 horsepower. These small engines generally cannot meet stack parameter conditions consistent with EPA method 1 and 1A and are almost impossible to test, in part because they have very short stacks. Cimarex suggests that the Bureau exempt these small engines from the emissions testing requirements.

Instead, Cimarex urges the Bureau to align its regulations with EPA's New Source Performance Standards JJJJ for internal combustion engines and IIII for diesel combustion engines. Both of these New Source Performance Standards include cut-offs for small engines.

VI. PIG LAUNCHING AND RECEIVING

Cimarex urges the Bureau to engage with operators on certain aspects of Section 20.2.50.21. First, Cimarex is uncertain whether it is feasible to install emission controls on all applicable traps. In addition, for traps that need emission controls, conducting Method 21 or OGI monitoring for <u>every</u> pigging event would not be feasible with current resources; Cimarex would have to equip and train additional field personnel with OGI or TVA.

In addition, operating a pig can generate high pressure gas emissions from a trap; the volume of gas typically is modest but exits under high pressure. As a result, the gas can be difficult to capture. It may, in some circumstances, be possible to recover that gas if the trap is near a combustor or other facility. However, Cimarex does not have readily available information on the cost of capture or the safety implications of attempting to capture this gas at existing facilities.

Cimarex believes the technical aspects of capturing emissions from traps is highly technical and not well understood. This is an area where further exchanges with operators could be fruitful.

VII. ALTERNATIVE MONITORING TECHNOLOGIES AND PROCESSES

Cimarex is a strong advocate for the development and implementation of alternative technologies and processes that viewed as a whole offer the potential for more rapidly and cost-effectively identifying fugitive emissions than is possible using either EPA Method 21 or optical gas imaging technologies. Cimarex has significant experience with one aircraft-mounted technology that uses methane spectrometry, thermal infrared, and optical imaging technologies and is convinced that such a technology, when combined with rapid marshalling of on-the-ground field teams to pinpoint and repair leaks generally identified by aircraft-based systems can provide superior performance at lower cost than conventional technologies. Cimarex urges the

Bureau to propose a robust, flexible, and expeditious approach for reviewing and approving such technologies and processes. We have some specific comments in that regard.

The preliminary draft rules propose that each pperator would submit alternative compliance plans. We suggest that is a mistake, for several reasons. First, the vendors will have at their disposal all of the information that is needed to confirm that their alternative technology and plan is substantially equivalent to the standard OGI/Method 21 approach. For example, the vendor could explain the technical basis for any technology that would be employed and any modeling or other analysis done to substantiate claims of efficacy.

Second, the approach suggested in the preliminary draft would be redundant and would impose an unnecessary burden on staff. The presentation to staff on an alternative monitoring plan will not differ markedly across operators. The technology certainly will not change. The efficacy of the technology should remain constant. Yet the preliminary draft rules would require staff to review virtually identical proposals multiple times. At the same time, this piecemeal approach would slow the deployment of a potentially valuable monitoring technology and process since it would entail an operator-by-operator approach. As noted immediately above, this approach seems to run counter to the Bureau's professed desire to facilitate the development and implementation of innovative technologies.

Perhaps the most important element of the process is setting the appropriate standard for approval of an alternative monitoring plan. As adverted to above, Cimarex suggests that the Bureau start by requiring that alternative monitoring plans yield results that are substantially equivalent to that which would result from use of the default technologies, <u>when viewed as a whole</u>. Every alternative monitoring technology and plan will be unique and will offer advantages and disadvantages over the default technologies. For example, some technologies will permit broad aerial coverage in relatively short periods of time, allowing the operator to quickly identify fugitive emissions but perhaps at different sensitivities than could be achieved using a default technology.

In basins as geographically large as both the Permian and San Juan Basins, the ability to monitor a large number of facilities spread out over a large area would offer significant advantages over a technology that relies on field personnel physically visiting each individual site. To carry that example one step farther, a technology that permits surveys of many facilities in a short period of time would significantly enhance the efficiency of field crews, who could be dispatched to a site where a leak had been observed. One solution to this dilemma would be to emphasize substantially equivalent outcomes, when viewed as a whole, as opposed to comparing one technology against another.

Cimarex also urges the Bureau to consider the growing body of evidence that so-called super-emitters are responsible for a large percentage of total methane emissions into the atmosphere. A technology capable of detecting such emitters and also capable of covering large areas in a relatively short period of time would presumably provide significant advantages over land-based systems that may not detect a super-emitting situation for a significant period of time. It is reasonable to assume there are other potential technologies that will differ in key respects from the current default technologies but which, when viewed as a while, offer significant advantages over those default technologies.

Finally, Cimarex suggests that in evaluating alternative technologies the Bureau should consider whether the vendor can independently validate the technology's efficacy and also demonstrate through field tests that the alternative technology lives up to its theoretical capability. In addition, the Bureau should require that a technology be capable of demonstrating

substantial equivalency through modeled results, in addition to demonstrated field use. Cimarex believes that a technology and alternative monitoring plan that can meet these requirements should be approved for broad use by operators.

VIII. ELECTRIFICATION

The proposed rules evince a clear desire to electrify well pad operations as a means of reducing emissions into the atmosphere and Cimarex is generally supportive of these efforts. Wherever possible, Cimarex electrifies facilities that are in close proximity to reliable sources of electricity and we view that as a viable approach to reducing emissions. However, in many places across the state, access to reliable and adequate electrical energy can be a challenge. Reliability is essential since a loss of power can force a shutdown that poses safety risks and is accompanied by the emissions attendant to a shutdown. We also note that even if an electrical distribution line runs in proximity to a well pad the line may not be capable of providing service to a well pad. We urge the Bureau to take these factors into consideration when encouraging or even requiring that operators electrify certain functions at a well pad.

IX. IMPLEMENTATION TIMELINES

Many of the proposed rules will require operators to install new equipment or change equipment at well pads. Cimarex notes two concerns with the proposed schedules for making these changes. First and most simply, if all New Mexico operators are competing to install essentially the same equipment at thousands of wells in the state, there inevitably will be purchasing bottlenecks that make compliance difficult or impossible EPA addressed precisely that situation when it promulgated storage tank control requirements pursuant to the New Source Performance Standard OOOO in 2012.

Second, allocating capital resources, designing and engineering equipment, and then procuring and installing equipment all take time. Operators will have to find and contract with third party vendors for much of this work and there is a limited supply of trained contractors in the rural parts of the state. In some cases, pads will have to be expanded to safely accommodate additional equipment. On federal lands, that can trigger additional permitting requirements. The challenges of doing these things would be magnified by a schedule that is unrealistic; Cimarex suggests that requiring that all of these modifications be completed within a year is simply unachievable. Therefore, we urge the Bureau to consider either phasing these requirements or providing for a longer lead time in appropriate circumstances.

X. CREDIBLE INFORMATION

Cimarex has a number of concerns regarding the proposal to rely upon credible information submitted by citizens to initiate a complaint and to shift the burden of proof to the operator. First, this provision will create an incentive for citizens to enter upon a well pad to secure information they believe suggests a violation. This raises a host of safety issues. First, the vast majority of individual citizens will be unfamiliar with these sites and the safety precautions that must be observed, creating a very real risk of injury. Second, it is unreasonable to expect an untrained citizen to possess and use appropriate safety gear before going on site, again creating the risk of injury. Third, a random citizen visit to a site would be entirely different from circumstances when an agency inspector visits a site accompanied by an operator representative who is familiar with both the site and necessary safety protocols. The risk of injury is to great and the Bureau should make clear it will not consider any information that is acquired from within the outer bounds of a well site.

Cimarex understands that all agencies receive and consider citizen complaints and that is appropriate. However, we also suggest that the agency should develop clear and transparent

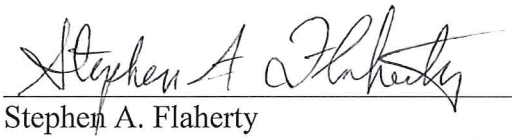
processes for timely evaluating information that accompanies a citizen complaint so the information does not become stale, making any response by an operator difficult or impossible.

Third, we take issue with the notion that the agency could shift the burden to the operator to disprove a violation that is based on a citizen complaint. We note first that the agency always carries the burden of going forward since it is the proponent of an order. That is the essence of due process. Moreover, what the draft proposal suggests, in effect, is that an operator will have to prove a negative – that a violation did not occur. As Cimarex has explained to the Bureau in the past, some technological approaches being used by citizen groups operate with a very high margin of error and currently cannot provide information to an operator in a timely manner that would allow the operator to contemporaneously determine whether a violation is, in fact occurring. For all of these reasons, we urge the Bureau to reconsider how it will use and weigh information provided by a citizen or citizen group.

In closing, Cimarex appreciates the opportunity to comment on the preliminary draft rules. Cimarex is grateful for the Bureau's efforts to solicit comment from stakeholders as part of the rulemaking process. We believe those efforts will result in better rules.

Please do not hesitate to contact me if I can be of any assistance. We are anxious to be helpful as the Bureau continues its work in developing proposed rules.

Very truly yours,



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