NMOGA Rebuttal and Surrebuttal Testimony of Marise Textor

Pigging and Dehydrators

Qualifications for Marise Textor

- Resume provided as NMOGA Exhibit 52.
- Professional experience summary provided in NMOGA Exhibit 46, page 1, line 37 through page 2, line 15.
- Professional affiliations provided in NMOGA Exhibit 46, page 2, lines 19-28.

NMOGA Rebuttal Testimony of Marise Textor - Glycol Dehydrators

September 16 NMED Proposed Rule (NMED Rebuttal Exhibit 23) 20.2.50.118 NMAC Glycol Dehydrators – Areas of Agreement

Paragraph	NMED Version (Paraphrased)	NMOGA Rebuttal Testimony Summary
B. Emission standards – B.(1) and (2)	Added "if present" to reference to the flash tank. (Page 23, lines 18 and 23)	Agree. All glycol dehydrators do not have a flash tank. Adding "if present" clarifies the control requirements because the proposed rule bases compliance on the combination of still and flash tank off gases. (NMOGA 46, page 13, line 39 through page 14, line 14)
B.(3)(b)	Changed "natural gas" to "vapor" when referring to the flash tank overhead. (Page 23, line 32)	Agree. "Natural gas" applies to gases with high methane content, ~80 to 95%, but the flash tank overhead gas may often be less than 50% methane and contain more heavier hydrocarbons. (NMOGA 46, page 14, lines 16-26)
B.(3)(c)	. . . emissions shall not be vented directly to atmosphere during normal operation. (Page 23, lines 36-37)	Agree. As originally written, would be impossible to comply. The word "directly" is needed because residual emissions vent to the atmosphere downstream of a control device. Adding "during normal operation" allows any necessary venting of emissions during startup or shutdown or startup of a control device. The original wording is inconsistent with paragraph 3(b) which allows a glycol dehydrator to have up to 5% downtime. (NMOGA 46, page 14, line 28 through page 15, line 16)

Additional Recommendations for 20.2.50.118 NMAC Glycol Dehydrators - A. Applicability

- NMOGA requests an additional applicability threshold to control units with PTE ≥ 2 tons/year VOC, adding actual annual flowrate of natural gas to the unit > 3 MMSCFD. (Revised NMOGA 47, page 38, lines 9-10)
  - Consistent with EPA Maximum Achievable Control Technology (MACT) Subpart HH
    - EPA determined that units < 3 MMSCFD do not have enough emissions to require controls.
  - Controlling smaller units will reduce cost effectiveness with little environmental benefit.
  - For any controls requiring routing to a combustion control device, NOx emissions will increase, which is directionally inconsistent with reducing ozone in the NOx sensitive environment of New Mexico.
  - Aligning a volume throughput threshold of the NMED rule with EPA MACT HH simplifies compliance and prevents confusion.
  - See NMOGA 46, page 13, lines 5-37.
- The Kuehn/Palmer rebuttal testimony states that units with less than 3 MMSCFD can still have "significant" associated VOC emissions. (NMED Rebuttal Exhibit 1, page 72, lines 11-12)
- However, NMOGA disagrees. A review of NMED spreadsheet "Dehydrators-Reductions-and-Costs-VOC-6-4-2021_erg-06-08-2021.xlsx" posted on the ozone precursor rulemaking website, June 8, 2021, shows the emissions from adding this threshold would not be significant:
  - Very few dehydrators have < 3 MMSCFD and are currently uncontrolled and their emissions represent less than 1% of controlled plus uncontrolled dehydrator VOC output.

Additional Recommendations for 20.2.50.118 NMAC Glycol Dehydrators - B. Emissions standard

(3)(b) – Add the phrase "which shall supersede any inconsistent requirements of 20.2.50.115 NMAC" after "minimum combined capture and control efficiency of ninety-five percent." (Revised NMOGA 47, page 38, line 38)

- Change eliminates contradiction between these two requirements for VRUs.
- Change ensures a practical and achievable VRU requirement for glycol dehydrators.
- Section 115 requires a redundant control device if using a VRU.
  - High cost to remove very few emissions.
  - Disincentivizes using a VRU. This change removes the disincentive.
  - VRUs should be preferred as they do not emit ozone-forming NOx.
- It does not appear that NMED meant to require a redundant VRU for glycol dehydrators in light of the VRU 5% downtime allowance.
- See NMOGA 46, page 15, line 39 through page 16, line 16.

Additional Recommendations for 20.2.50.118 NMAC Glycol Dehydrators - C. Monitoring requirements

- (1) – Add "A representative gas analysis may be utilized for this calculation." (Revised NMOGA 47, page 38, lines 50-51)
  - Costly requirement to sample at each location and not transparent whether NMED addressed the costs in their analysis.
  - An engineering judgment regarding representative gas analysis will not introduce uncertainty that will appreciably affect emissions calculations.
  - Improves cost effectiveness without impacting actual emissions or changing compliance decisions.
  - See NMOGA 46, page 15, lines 18-37.
- NMED Rebuttal Exhibit 1 (page 73, line 8) explains that estimated emissions should be based on the most accurate information available and that calculations based on the composition of the actual gas being processed are by definition more accurate.
- NMOG disagrees with the NMED rebuttal:
  - Although more accurate, if the sample is "representative" as NMOGA suggests, the difference in accuracy will not alter the accuracy in any appreciable manner. That is what "representative" means.
  - Considering other operational variations, using a representative sample will not significantly alter the accuracy of the emission calculations beyond their actual accuracy with a sample for the specific unit.

NMOGA Rebuttal Testimony of Marise Textor – Pig Launching and Receiving

20.2.50.121 NMAC Pig Launching and Receiving Should be Deleted Entirely from the Rule

- EPA did not include controlling emissions from pig launching and receiving in several rules and documents:
  - Control Techniques Guidelines (2016) which recommends control techniques for “significant sources of emissions” in ozone nonattainment areas
  - Proposed Federal Implementation Plan for the oil & gas sources on the U&O Tribal Reservation in the Uintah Basin ozone nonattainment area (2020)
  - New Source Performance Standards (NSPS) OOOO and OOOOa for crude oil and natural gas facilities
- NMED has not fully vetted challenges of controlling these emissions in New Mexico with remote sites that lack infrastructure.
- Controlling this relatively low quantity of emissions will result in increased NOx emissions, directionally the wrong thing to do in New Mexico with its NOx sensitive ozone regime.
- The applicability threshold of 1 ton per year is substantially lower than the threshold in the Pennsylvania and Ohio rules upon which NMED based its proposal, and the Pennsylvania rule does not include liquid pigging operations which the NMED proposal includes.
- NMED cost estimate underestimates the costs to control the emissions.
  - The cost from a 2011 EPA paper is out of date. A current cost estimate obtained from PRM Filtration is three times higher.
  - NMED testimony misrepresented the costs and equipment as best management practice.
  - The EPA paper describes routing the pigging emissions to a low-pressure storage tank and then controlling the tank emissions, and requires compressor, pump, and gathering lines. Such equipment may also not be available.
  - In the absence of electricity, the engines used to drive the compressor and pump would emit ozone-forming NOx.
- See NMOGA 46, page 3, line 1 through page 5, line 15 and page 6, line 34 through page 8, line 13.

20.2.50.121 NMAC Pig Launching and Receiving Should be Deleted Entirely from the Rule

- NMED Rebuttal Exhibit 1 (Page 79, lines 19-20) states that other states found it worthwhile to control pig launching and receiving emissions. NMOGA disagrees with this reasoning because:
  - Pennsylvania and Ohio sites are less likely to be remote and lack infrastructure. NMED has not fully vetted challenges of controlling these emissions under these conditions more common in New Mexico.
- NMED Rebuttal Exhibit 1 (Page 79, lines 20-21) states that controls on the 10 facilities for which it has data would reduce VOC emissions by at least 24 tons per year. NMOGA disagrees with this reasoning to retain this rule section because:
  - NMED can address these larger facilities through controls required under an air permit rather than a rule with wider applicability.
  - The reason that NMED does not have more pig launching and receiving operations in its database is because others have smaller emissions not subject to permitting, and the 10 cited in the NMED rebuttal do not represent most operations.
- For these reasons, NMOGA recommends eliminating the section requiring controls for pig launching and receiving.

September 16 NMED Proposed Rule (NMED Rebuttal Exhibit 23): 20.2.50.121 NMAC Pig Launching and Receiving – Areas of Agreement

Paragraph	NMED Version (Paraphrased)	NMOGA Testimony – If Pig Section Retained
A. Applicability	Individual launchers or receivers with PTE ≥ 1 TPY VOC within the property boundary of and under common ownership or control of [various operations] (Page 27, lines 42-44)	Agree. Helps to improve cost-effectiveness of the rule, considering the reasons why this section should not be included at all. Eliminates impractical requirement of controlling offsite pigging emissions, which would require more right-of-way than may be available, portable combustion equipment and associated temporary piping which would need to be emptied to atmosphere, and impossibility of offsite flaring during times of high wildfire risk on public lands. (NMOGA 46, page 3, line 39 through page 7, line 6)
B. Emission standards – B.(1)	Reduce and capture VOC emissions . . . by at least 95% (Page 27, line 49)	Agree. Aligns with the Pennsylvania and Ohio rules upon which NMED modeled their proposal and agrees with EPA's recommendation in the 2016 Control Techniques Guideline (CTG) (NMOGA Exhibit #3) which NMED quoted in NMED Exhibit 32 (page 142, lines 11-13). (NMOGA 46, page 8, line 29 through page 9, line 32)
B.(1)	Design combustion efficiency of 98% (Page 27, line 50-51)	Agree. Considering the short duration of pigging emissions, it would be impossible to determine actual combustion efficiency. Requiring a design efficiency ensures that operators can comply with the rule. (Refer to discussion in NMOGA 46, page 9, lines 21-32, which addresses a similar issue)

September 16 NMED Proposed Rule (NMED Rebuttal Exhibit 23): 20.2.50.121 NMAC Pig Launching and Receiving – Areas of Agreement

Paragraph	NMED Version (Paraphrased)	NMOGA Testimony – If Pig Section Retained
B.(2)(a) and (c)	Employ best management practices . . . to minimize emissions . . . (Page 28, lines 4 and 9)	Agree. It is not possible to prevent all emissions. The capture efficiency results in a small amount of emissions not being routed to the control device. A flare or other combustion device has a destruction efficiency, leaving a small percentage of the emissions unburned. Other equipment has fugitive leakage at valves and connectors. When opening the equipment after depressuring it to atmospheric pressure through the control device, the last drops of vapor in the equipment will escape, and small quantities of residual liquids in the equipment might vaporize upon opening the equipment. Specific control methods in the proposed rule such as liquid ramps and drains, routing to a low-pressure chamber, using a ball valve type chamber, or using multiple pig chambers, all serve to minimize rather than prevent emissions. (NMOGA 46, page 10, lines 7-27)
B.(3)	. . . individual launching and receiving . . actual annual VOC emissions . . . < 1 ton per year (Page 28, lines 14-15)	Agree. Appropriately aligns the threshold at which the section ceases to apply with the initial applicability of the section, ensuring better cost-effectiveness. There is no reason to treat applicability and non-applicability differently. (NMOGA 46, page 10, line 29 through page 11, line 3)

September 16 NMED Proposed Rule (NMED Rebuttal Exhibit 23): 20.2.50.121 NMAC Pig Launching and Receiving – Areas of Agreement

Paragraph	NMED Version (Paraphrased)	NMOGA Testimony – If Pig Section Retained
C. Monitoring Requirements – old C.(1)	Deleted requirement to monitor type and volume of liquid cleared. (Page 28, lines 19-20)	Agree. Requirement would have provided no environmental benefit or improvement in capturing emissions. In many cases, there would not have been a practical way to implement it, e,g., where liquids are hard-piped to a tank. Taking a sample might increase emissions. (NMOGA 46, page 12, lines 19-30)
New C.(1)	. . . Inspect for leaks using AVO (Page 28, line 22)	Agree. Adding AVO to allowable leak inspection methods improves cost effectiveness and as the proposed rule defines an AVO inspection in 20.2.50.116.C.(1), AVO can detect a problem before a leak occurs, which neither RM21 nor OGI can do. (NMOGA 46, lines 25-29)
New C.(1)(a) and (b)	. . . monthly basis if pigging operations occur monthly or more frequently (Page 27, lines 23-24) Prior to the commencement and after the conclusion . . . if less frequent. (Page 27, lines 25-27)	Agree. Allowing less frequent inspections where pigging occurs less than monthly improves cost effectiveness and would likely be as effective. (NMOGA 46, page 11, lines 14-41)
New C.(2)	. . . using the methodologies of 20.2.50.116(C) as applicable and at the frequency of 20.2.50.116(C). . . shall be performed when the pig trap is under pressure. (Page 28, lines 28-30)	Agree. NMOGA suggested this requirement and NMED adopted it. Performing monitoring when the pig trap is under pressure provides for effective monitoring as it would be unlikely to detect emissions with no pressure in the trap. (NMOGA 46, page 11, lines 39-41)

NMOGA Additional Recommendations if 20.2.50.121 NMAC Pig Launching and Receiving Remains in the Final Rule

- Emission standards – B.(1) should allow up to three years of the rule effective date for compliance. (Revised NMOGA 47, page 45, lines 12-13)
  - NMOGA appreciates NMED addition of two years for compliance but requests three.
  - Compliance will require substantial capital investment at some locations which entails:
    - Folding the requirements into budgets and funding mechanisms
    - Detailed engineering design
    - Management of change
    - Procurement
    - Contracting
    - Construction
    - Procedure development
    - Training
    - Startup
  - Some of these steps will be needed even if the site will rely on a portable combustion device.
  - All of this must be done concurrent with implementing numerous other requirements and with ongoing labor and supply chain restrictions due to COVID-19.
  - See NMOGA 46, page 12, line 32 through page 13, line 1.
- NMED Rebuttal Exhibit 1 (Page 80, lines 19-23) states that NMOGA provided no testimony to justify three years, but NMOGA provided this rebuttal testimony (NMOGA 46) that NMED did not see at the time of writing Rebuttal Exhibit 1.

NMOGA Additional Recommendations if 20.2.50.121 NMAC Pig Launching and Receiving Remains in the Final Rule

- Emission standards – B.(1) should not require installing controls that need supplemental fuel to achieve destruction. (Revised NMOGA 47, page 45, lines 13-14)
  - Considering the ephemeral and variable nature of these emissions, supplemental fuel may be needed in some cases.
    - Small volume equipment to depressurize.
    - Flow rate of gases to the control device will dwindle off as the equipment approaches atmospheric pressure.
  - The addition of supplemental fuel poses the following problems:
    - Increases the cost and was not accounted for in the NMED cost evaluation.
    - Increases VOC emissions due to the combustion efficiency.
    - Increases NOx emissions due to the need to combust the supplemental fuel.
    - Could result in no benefit to air quality or an *increase* in ozone.
  - See NMOGA 46, page 9, line 34 through page 10, line 5.

NMOGA Additional Recommendations if 20.2.50.121 NMAC Pig Launching and Receiving Remains in the Final Rule

- Do not require portable control devices to meet 20.2.50.115 NMAC for control devices. (Revised NMOGA 47, page 45, lines 30-32)
  - Portable devices may not be available with all of the monitoring capability that can be installed on fixed equipment.
  - It is not obvious if the portable devices can be altered accordingly.
  - In the case of rental devices, the rental company will not want the company renting to alter their equipment.
- Instead, NMOGA recommends requiring portable devices to be installed consistent with manufacturer's specifications.
- See NMOGA 46, page 11, line 43 through page 13, line 17.