

**STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT BOARD**

**IN THE MATTER OF)
PROPOSED NEW REGULATION)
20.2.50 NMAC) NO. EIB-21-27 (R)
Oil and Gas Sector–Ozone Precursor Pollutants)**

**COMMERCIAL DISPOSAL GROUP’S NOTICE OF INTENT
TO PRESENT REBUTTAL TECHNICAL TESTIMONY**

Pursuant to the August 26, 2021 Procedural Order and 20.1.1.302 NMAC, NGL Energy Partners LP (“NGL”), Solaris Water Midstream, LLC (“Solaris”), OWL SWD Operating, LLC (“OWL”), Goodnight Midstream, LLC (“Goodnight”), and 3 Bear Energy, LLC (“3 Bear”), (collectively the “Commercial Disposal Group” or the “Group”) gives notice that it intends to present technical rebuttal testimony in the hearing in this matter currently scheduled to begin September 20, 2021, and continuing day-to-day until completed. Each of the members of the Commercial Disposal Group has commercial operations in New Mexico for the recycling and underground injection of produced water. The New Mexico Environment Department’s (“NMED”) Oil and Gas Sector - Ozone Precursor Pollutants proposed rule (“Proposed Rule”) will directly and negatively impact each member of the Group unless certain revisions to the Proposed Rule are adopted. As stated in the Group’s direct testimony, the language of the Proposed Rule appears crafted to address important concerns at sites owned and operated by oil and gas producers, but that in many cases does not fit operations at commercial produced water disposal facilities. For this reason, the Proposed Rule should be revised to ensure the

requirements imposed on the commercial produced water recycling and disposal industry are technically feasible and cost effective with commensurate environmental benefit.

The Group's proposed revisions are aimed at encouraging further investment in and operation of important produced water recycling, reuse and treatment operations in New Mexico. For these reasons and as further explained in the attached rebuttal testimony, the Commercial Disposal Group respectfully requests that NMED consider its comments and suggested alternatives to certain provisions of Section 20.2.50.126 (Produced Water Management Units), as well as certain monitoring-related requirements in Sections 20.2.50.112 (General Provisions), 20.2.50.120 (Hydrocarbon Liquid Transfers), Section 20.2.50.123 (Storage Vessels), and 20.2.50.121 Pig Launching And Receiving in order to avoid unintended negative impacts to the commercial produced water recycling and disposal industry and to the State of New Mexico. The Commercial Disposal Group submits to the Board the following information pursuant to the August 26, 2021 Procedural Order and 20.1.1.302 NMAC.

The following witnesses will provide rebuttal testimony and a copy of their written rebuttal testimony is attached hereto:

1. Entity for whom the witnesses will testify in rebuttal: The witnesses identified herein will testify in rebuttal on behalf of NGL, Solaris, OWL, Goodnight, and 3 Bear.

2. Identity of witnesses and copy of rebuttal testimony (The qualifications and CVs of the witnesses have been submitted in the previously filed direct testimony):

- a. Il Kim, Senior Air Permitting Engineer, NGL Energy Partners LP
- b. Ashley Campsie, licensed professional engineer, Evergreen Environmental Engineering, Inc.
- c. Lori Marquez, Senior Air Quality Consultant, Barr Engineering Company

- d. Greg Jones, Air Compliance Specialist with 3 Bear Energy, LLC
- e. Jill Cooper, Senior Principal and JD, Geosyntec Consultants, Inc.

3. Recommended modifications: A copy of the Group's recommended modifications to the proposed regulation are included in the direct testimony as Exhibit 1 to Attachment F, as modified by the redline proposals in the attached testimony.

4. Exhibits: Attachment 1 to Rebuttal Testimony of Lori Marquez. The group reserves the right to introduce and move for admission of any other exhibit in support of rebuttal or additional direct testimony at the hearing.

5. To the extent consistent with this Rebuttal Notice, the Commercial Disposal Group endorses, joins, and incorporates by reference the entirety of the rebuttal technical testimony of the New Mexico Oil and Gas Association ("NMOGA") filed in this matter.

Respectfully submitted this 7th day of September 2021.

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing COMMERCIAL DISPOSAL GROUP'S NOTICE OF INTENT TO PRESENT REBUTTAL TECHNICAL TESTIMONY was filed via electronic mail with the New Mexico Environment Department and served via electronic mail to the following parties on this 7th day of September 2021:

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/s/ Robin M. Aragon

Appendix A

Rebuttal Testimony of Il Kim

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REBUTTAL TESTIMONY OF IL KIM

Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS

A: Il Kim. 865 North Albion Street, Suite 400, Denver, Colorado 80220.

Q: BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A: I am employed at NGL Energy Partners LP as a Sr. Air Permitting Engineer.

Q: ON WHOSE BEHALF ARE YOU OFFERING REBUTTAL TESTIMONY?

A: I am testifying on behalf of NGL Energy Partners LP (“NGL”), Solaris Water Midstream, LLC (“Solaris”), OWL SWD Operating, LLC (“OWL”), Goodnight Midstream, LLC (“Goodnight”), and 3 Bear Energy, LLC (“3 Bear”), which I may collectively refer to as the “Commercial Disposal Group” or the “Group.”

Q: WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A: The purpose of my rebuttal testimony is to identify the Commercial Disposal Group’s support for and concerns regarding the positions taken and rule language proposed by other parties to this rulemaking. Specifically, the Group offers minor revisions to NMED’s rule language regarding hydrocarbon liquid transfers (20.2.50.120B.(1)) and adopts NMOGA’s rule language

1 regarding storage vessels (20.2.50.123A) with the addition of an exemption request provision
2 (20.2.50.123B.(9).

3 **Q: DO YOU OPPOSE NMED’S PROPOSED OZONE PRECURSOR RULES?**

4 A: I support many provisions in NMED’s proposed rules but take exception to two provisions
5 in particular which will directly and negatively impact each member of the Commercial Disposal
6 Group’s operations for recycling and underground injection of produced water. In my direct
7 testimony I addressed the Group’s concerns with the proposed rules relating to (i) hydrocarbon
8 liquid transfers and (ii) storage vessels. In addition to those concerns, this rebuttal testimony will
9 address additional concerns with those two provisions of the proposed rule.
10

11 **Q: PLEASE SUMMARIZE YOUR CONCERNS WITH THE PROPOSED OZONE**
12 **PRECURSOR RULES.**

13 A: The provisions the Group is concerned about do not take into consideration the differences
14 between commercial produced water facilities and exploration and production facilities. The Group
15 provides services for disposal of produced water at underground injection well facilities and
16 recycling of produced water at produced water management unit facilities. When applied to these
17 types of facilities, the provisions of the proposed rule impose requirements that are unduly
18 burdensome, prohibitively costly, and/or technically infeasible.
19

20 **II. HYDROCARBON LIQUID TRANSFERS**

21 **Q: DO YOU HAVE CONCERNS ABOUT 20.2.50.120 NMAC AS PROPOSED?**

22 A: Yes.

23 **Q: PLEASE SUMMARIZE YOUR CONCERNS WITH 20.2.50.120 NMAC.**

24 A: The Group supports NMED’s proposal to control hydrocarbon loadout emissions. However,
25 the hydrocarbon liquid transfer provisions should apply only to hydrocarbon loadouts which exceed
26 5 tons per year (“tpy”) VOC of actual emissions.
27
28

1 As stated in my direct testimony, Section 123 imposes emission control requirements in relation to
2 storage vessels which are technically infeasible where the use of supplemental fuel is required. The
3 Group is concerned that facilities with very low emissions could end up increasing total VOC and
4 NOx emissions with use of supplemental fuel in order to combust vapors. In addition, our Group's
5 facilities, due to low hydrocarbon concentrations, are not already controlled like E&P facilities and
6 therefore would require significant modifications to achieve capture and combustion efficiencies for
7 both hydrocarbon liquid loadout and storage tanks.

8
9 NMED does not require an air permit, nor do we need to submit a notice of intent prior to
10 construction, if the calculated potential emissions rates are less than 10 tons per year of any
11 regulated air contaminant which includes volatile organic compounds. Owners or operators of
12 hydrocarbon liquid loading transfers for which the use of air pollution control equipment would be
13 technically infeasible, should have the opportunity to apply to the department for an exemption
14 from the control requirements of Section 20.2.50 NMAC. Evidence submitted by an applicant for an
15 exemption based on technical infeasibility of a combustor demonstrating that emissions to be
16 controlled from hydrocarbon liquid transfers are below the minimum BTUs specified by the
17 manufacturer of the combustor to operate the combustor without the use of supplemental fuel would
18 constitute technical infeasibility.
19

20 **Q: HAVE YOU PREPARED SPECIFIC REVISIONS TO THE RULE THAT**
21 **IMPLEMENT WHAT YOU JUST DESCRIBED?**
22

23 A: Yes. In addition to the rule revisions the Group proposed to subsection A of 20.2.50.120
24 (Applicability) in our direct testimony, our members propose revisions to subsection B of
25 20.2.50.120 (Emissions Standards) that will address our concerns. Our proposed revisions are
26 shown in the redline below.
27
28

1 **20.2.50.120 HYDROCARBON LIQUID TRANSFERS:**

2 **B. Emission standards:**

3 (1) If feasible, the owner or operator of a hydrocarbon liquid transfer operation shall use
4 vapor balance, or vapor recovery designed to collect the overhead vapors from a transfer vessel, or
5 use a control device designed to control VOC emissions from overhead vapors by at least ninety-
6 eight five percent when transferring hydrocarbon liquid from a storage vessel to a transfer vessel; .
7 or w When transferring liquid from a transfer vessel to a storage vessel, the control requirements
8 defined in Section 20.2.50.123 apply and no further requirements under this section apply.

9 **Q: ARE YOU AWARE OF OTHER STATES THAT HAVE ADOPTED RULE**
10 **LANGUAGE TO ADDRESS YOUR CONCERNS?**

11 **A.** Yes. Colorado adopted language that recognizes hydrocarbon liquid loadout applies only to
12 hydrocarbon loadout from storage tanks to transport vehicles. Colorado's Air Quality Control
13 Commission Regulation 7, 5 CCR 1001-9, Part D, Section II.C.5.a. (paragraph 2), states that:

14 Owners or operators of class II disposal well facilities with VOC emissions **from**
15 **hydrocarbon liquids loadout to transport vehicles** greater than or equal to two
16 (2) tons uncontrolled actual emissions per year on a rolling 12-month basis must
17 control emissions **from the loadout of hydrocarbon liquids from storage tanks**
18 **to transport vehicles** by using (a) submerged fill and (b) a vapor collection and
19 return system and/or air pollution control equipment. (Emphasis added.)

20 **II. STORAGE VESSELS**

21 **A. DEFINITION OF STORAGE VESSEL**

22 **Q. DO YOU HAVE CONCERNS ABOUT THE DEFINITION OF STORAGE VESSEL**
23 **IN 20.2.50.7RR NMAC AS PROPOSED?**

24 **A.** Yes.

25 **Q: PLEASE SUMMARIZE YOUR CONCERNS WITH 20.2.50.7RR NMAC.**

26 The definition of "storage vessel" needs to be consistent with EPA's NSPS 40 CFR Subpart
27 OOOOa and other regulations that have already defined that term. Process vessels should not be
28 included as storage vessels.

Q. WOULD YOU SUGGEST A DIFFERENT APPROACH TO DEFINING STORAGE
VESSELS?

1 Yes. The Group proposes defining storage vessel to exclude a process vessel such as a surge
2 control vessel, bottom receiver, or knockout vessel.

3 **Q: HAVE YOU PREPARED SPECIFIC REVISIONS TO THE RULE THAT ADDRESS**
4 **YOUR CONCERNS?**

5 Yes. Our proposed revisions are shown in the redline below.

6 **20.2.50.7 DEFINITIONS:**

7 **RR.** “Storage vessel” means a single tank or other vessel that is designed to contain an
8 accumulation of hydrocarbon liquid or produced water and is constructed primarily of non-earthen
9 material including wood, concrete, steel, fiberglass, or plastic, which provide structural support, ~~or a~~
10 ~~process vessel such as a surge control vessel, bottom receiver, or knockout vessel.~~ A well
11 completion vessel that receives recovered liquid from a well after commencement of operation for a
12 period that exceeds 60 days is considered a vessel. A storage vessel does not include a vessel that is
13 skid-mounted or permanently attached to a mobile source and located at the site for less than 180
consecutive days, such as a truck railcar, ~~a process vessel such as a surge control vessel, bottom~~
~~receiver, or knockout vessel,~~ or a pressure vessel designed to operate in excess of 204.9 kilopascals
without emissions to the atmosphere.

14 **B. STORAGE VESSELS CONTROLS**

15 **Q: DO YOU HAVE CONCERNS ABOUT 20.2.50.123 NMAC AS PROPOSED?**

16 **A:** Yes.

17 **Q: PLEASE SUMMARIZE YOUR CONCERNS WITH 20.2.50.123 NMAC.**

18 **A:** As stated in my direct testimony, Section 123 imposes emission control requirements in
19 relation to storage vessels which are technically infeasible where the use of supplemental fuel is
20 required. The Group is concerned that facilities with very low emissions could end up increasing
21 total VOC and NOx emissions with use of supplemental fuel in order to combust vapors. As stated
22 above, due to low hydrocarbon concentrations, our Group’s facilities are not already controlled like
23 E&P facilities and therefore would require significant modifications to achieve capture and
24 combustion efficiencies for both storage tanks and hydrocarbon liquid loadout. These modifications
25 are costly and may not result in any VOC reductions. In fact, at sites with very low hydrocarbon
26 concentrations in the vapors, the sites could end up having an increase in total emissions of not only
27 VOCs, but oxides of nitrogen (“NOx”) and carbon monoxide (“CO”) as well, due to the use of
28

1 supplemental fuel for combustion. The proposed rule would force the Group to incur large capital
2 expenses to retrofit combustors on our sites either on the tanks or specifically for hydrocarbon load
3 out. The costs would include capital costs, non-recurring costs, and O&M costs. Many of these
4 facilities will need to be retrofitted with new tanks and vapor lines in order to meet the requirements
5 of the proposed rule. In total, the capital costs could be over \$500,000 per site with annual O&M
6 costs of \$40,000. The calculated cost to control VOC in dollars per ton would be \$28,657.85 per ton
7 of VOC controlled. A detailed Cost Estimate of Economic Impacts of this section of proposed rules
8 as applied to the Group's facilities is attached to the Group's direct testimony as Attachment E.

9
10 **Q: WOULD YOU SUGGEST A DIFFERENT APPROACH TO REGULATING**
11 **STORAGE VESSELS WHERE THE USE OF AIR POLLUTION CONTROL EQUIPMENT**
12 **WOULD BE TECHNICALLY INFEASIBLE?**

13
14 A: Yes. In general, the Group recommends aligning the applicability provision of Section
15 20.2.50.123 to NSPS 40 CFR Subpart OOOOa, which means increasing the Potential to Emit
16 ("PTE") to six tpy for existing storage vessels. The Group supports two tpy actual emissions for
17 new storage vessels, with the inclusion of a new section 9 as set forth in our direct testimony.
18 Section 9 sets out a process for requesting an exemption from Section 20.2.50.123 requirements at
19 sites with very low hydrocarbon concentrations. This is due to the technical issues associated with
20 bringing in supplemental fuel to operate the control devices. We support NMOGA's changes set
21 forth in its direct testimony with the addition of a new Section 20.2.50.123B.(9).

22
23 **Q: DO YOU HAVE SPECIFIC SUGGESTIONS FOR REVISING THE RULE?**

24 A. Yes. The Group proposes revisions to sections A and B of 20.2.50.123 that will address the
25 Group's concerns. We suggest increasing the PTE to equal to or greater than six tpy for existing
26 storage vessels, as proposed by NMOGA. We support a PTE equal to or greater than 2 tpy for new
27 storage vessels, as recommended by NMED. Where air pollution control equipment can be
28 demonstrated to be technically infeasible, including inability to operate without supplemental fuel,

1 we recommend that the owner or operator be allowed to apply to the NMED for an exemption from
2 the control requirements of Section 20.2.50 NMAC.

3 **Q: HAVE YOU PREPARED SPECIFIC REVISIONS TO THE RULE THAT**
4 **IMPLEMENT WHAT YOU JUST DESCRIBED?**

5 A: Yes. Our proposed revisions are shown in the redline below.

6
7 **20.2.50.123 STORAGE VESSELS**

8 **A. Applicability:** ~~Storage vessels with an uncontrolled PTE equal to or greater than two tpy of~~
9 ~~VOC 42 and located at wellhead sites, tank batteries,~~ Existing storage vessel with individual
10 uncontrolled PTE or actual emissions equal to or greater than six tpy of VOC, and new storage
11 vessel with individual uncontrolled PTE or actual emissions equal to or greater than two tpy of
12 VOC, located at well production facilities, gathering and boosting sites, natural gas processing plants,
13 or transmission compressor stations are subject to the requirements of 20.2.50.123 NMAC except as
14 provided in (9) below. In determining the uncontrolled PTE or actual emissions of a storage vessel,
15 owners or operators will use generally accepted methods for estimating emissions. Where multiple
16 storage vessels are manifolded together with piping such that all vapors are shared between the
17 headspace of the storage vessels and are routed to a common outlet or end point, owners or
18 operators may determine the PTE or actual emissions of an individual storage vessel.

19 ...

20 **B. Emission Standards:**

21 (9) Owners or operators of storage tanks for which the use of air pollution control equipment would
22 be technically infeasible, including but not limited to the fact that such equipment would not operate
23 without supplemental fuel, may apply to the Division for an exemption from the control
24 requirements of Section 20.2.50 NMAC. Such request must include documentation demonstrating
25 the infeasibility of the air pollution control equipment. The applicability of this exemption does not
26 relieve owners or operators of compliance with the storage tank monitoring requirements. Without
27 limitation, evidence submitted by an applicant under this paragraph for an exemption based on
28 technical infeasibility of a combustor demonstrating that emissions to be controlled from a storage
tank are below the minimum BTUs specified by the manufacturer of the combustor to operate the
combustor without the use of supplemental fuel, shall constitute technical infeasibility. All other
applications will be considered on a case-by-case basis.

29 **Q: ARE YOU AWARE OF OTHER STATES THAT HAVE ADOPTED RULE**
30 **LANGUAGE TO ADDRESS YOUR CONCERNS?**

31 A: Yes. As set forth in the Group's direct testimony, the Colorado Air Quality Control
32 Commission adopted a provision that allows operators to seek an exception to controlling tanks

1 between 2 and 6 tpy VOCs. Colorado's Air Quality Control Commission Regulation 7, 5 CCR
2 1001-9, Part D, Section II.C.1.c.(iii) states that:

3 Owners or operators of storage tanks for which the use of air pollution control
4 equipment would be technically infeasible without supplemental fuel may apply
5 to the Division for an exemption from the control requirements of Section
6 II.C.1.c. Such request must include documentation demonstrating the infeasibility
7 of the air pollution control equipment. The applicability of this exemption does
8 not relieve owners or operators of compliance with the storage tank monitoring
9 requirements of Section II.C.1.d.

8 **Q. DO YOU HAVE ANY OTHER CONCERNS YOU WANT TO RAISE IN
9 YOUR REBUTTAL TESTIMONY?**

10 A. Yes.

11 **Q. DO YOU HAVE OTHER COMMENTS YOU WOULD LIKE TO OFFER
12 REGARDING THE PROPOSED RULE OR PARTY TESTIMONY?**

13 A. Yes. The Group understands that NMOGA proposed a definition of "tank battery"
14 in its original testimony which it now proposes to withdraw. The Group supports the
15 withdrawal of the definition from this rule as it is unnecessary because it is defined in
16 20.2.38.7E NMAC.

17 **Q: DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

18 A: Yes.
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Appendix B

Rebuttal Testimony of Ashley Campsie

**STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT BOARD**

IN THE MATTER OF	)	
PROPOSED NEW REGULATION	)	
20.2.50 NMAC	)	NO. EIB-21-27 (R)
<i>Oil and Gas Sector–Ozone Precursor Pollutants</i>	)	

REBUTTAL TESTIMONY OF ASHLEY CAMPSIE

I. INTRODUCTION

Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS

A: Ashley Campsie. 261 Columbine Ln, Evergreen, Colorado 80439.

Q: BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A: I am President of Evergreen Environmental Engineering, Inc. In addition to performing the duties of company President, I also work as an environmental engineer for the company.

Q: ON WHOSE BEHALF ARE YOU TESTIFYING?

A: I am testifying on behalf of NGL Energy Partners LP (“NGL”), Solaris Water Midstream, LLC (“Solaris”), Oilfield Water Logistics SWD Operating, LLC (“OWL”), Goodnight Midstream, LLC (“Goodnight”), and 3 Bear Energy, LLC (“3 Bear”), which I may collectively refer to as the “Commercial Disposal Group” or the “Group.”

Q: WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A: The purpose of my rebuttal testimony is to identify the Commercial Disposal Group’s support for and concerns regarding the positions taken and rule language proposed by other parties to this rulemaking. Specifically, the Group adopts NMOGA’s rule language regarding Engines and Turbine (20.2.50.113) in addition to our initial request to change annual testing to

every 8760 hours of operation or three years to be consistent with NSPS 40 CFR Part 60 Subpart JJJJ and the Group supports NMOGA's testimony concerning compliance evaluations before transfer of ownership. In addition, after reviewing direct testimony, the Group would like to propose additional rule language changes related to the produced water management units in 20.2.50.7 and 20.2.50.126.

Q: DO YOU OPPOSE NMED'S PROPOSED OZONE PRECURSOR RULES?

A: I support many provisions in NMED's proposed rules but continue to be concerned with three provisions which will negatively impact each member of the Commercial Disposal Group's operations for recycling and underground injection of produced water. In my direct testimony I addressed the proposed rules relating to (i) engines and turbines, (ii) produced water management units ("PWMU"), and (iii) transfer of ownership compliance evaluation. This rebuttal testimony will address support for NMOGA's direct testimony as well as additional concerns with these three provisions.

Q: PLEASE SUMMARIZE YOUR CONCERNS WITH THE PROPOSED OZONE PRECURSOR RULES.

A: The provisions the Group is concerned about do not take into consideration the differences between commercial produced water facilities and exploration and production facilities. The Group provides services for disposal of produced water at underground injection well facilities and recycling of produced water at produced water management unit facilities. When applied to these types of facilities, the provisions of the proposed rule impose requirements that are unduly burdensome, prohibitively costly, and/or technically infeasible and would likely return little environmental benefit.

1 **II. ENGINES AND TURBINES (20.2.50.113 NMAC)**

2 **Q: DO YOU HAVE CONCERNS ABOUT 20.2.50.113 NMAC AS PROPOSED BY**
3 **NMED?**

4 A: Yes.

5 **Q: PLEASE SUMMARIZE YOUR CONCERNS.**

6 A: As stated in my direct testimony, the Group would like the requirements under this
7 provision to be consistent with current federal regulations to avoid unnecessary confusion
8 between conflicting regulations. In addition, the Group is concerned with the 0.3 g/hp-hr NOx
9 emission limitation put on lean burn engines. There are several engine groups that cannot meet
10 this low of a standard and it would eliminate the ability to utilize these engines if currently in a
11 company's fleet. A specific example is the Caterpillar G3516 engine. This engine is widely
12 used in the field and is not capable of meeting 0.3 g/hp-hr. Caterpillar has not produced an
13 upgrade package for this engine to date.

14 **Q: WOULD YOU SUGGEST A DIFFERENT APPROACH?**

15 A: Yes. In addition to the testing changes, I suggested in my direct testimony, the Group
16 supports NMOGA's changes set forth in its direct and rebuttal testimony for provision
17 20.2.50.113, specifically the change of lean burn emission factors for NOx.

18 **Q: HAVE YOU PREPARED SPECIFIC REVISIONS TO THE RULE THAT**
19 **IMPLEMENT WHAT YOU JUST DESCRIBED?**

20 A: Yes. We support NMOGA's redline set forth in their direct testimony in addition
21 to the slight revision shown in the redline below.

22 **20.2.50.113 ENGINES AND TURBINES:**

23 C.(3)(h) emission testing shall be conducted at least once ~~per calendar year~~every 8760 hours of
24 operation or 3 years, whichever comes first. Emission testing required by Subparts GG, IIII, JJJJ,
25 or KKKK of 40 CFR 60, or Subpart ZZZZ of 40 CFR 63, may be used to satisfy the emissions

testing requirements if it meets the requirements of 20.2.50.113 NMAC ~~and is completed at least once per calendar year.~~

Q: CAN YOU WALK US THROUGH THE REDLINE?

A: Yes. Section 20.2.50.113, the testing frequency has been changed to align with NSPS JJJJ to require testing every 8760 hours or 3 years, whichever comes first.

III. PRODUCED WATER MANAGEMENT UNITS (20.2.50.126 NMAC)

Q: DO YOU HAVE CONCERNS ABOUT 20.2.50.126 NMAC AS PROPOSED BY NMED?

A: Yes.

Q: PLEASE SUMMARIZE YOUR CONCERNS.

A: In addition to the concerns raised in my direct testimony we have concerns with two definitions related to produced water management units. In order to provide clarity and to encourage recycling activities, the Group suggests deleting “recycling facility” and adding “or pond” to the definition of produced water management units and adding “or pond” to the definition of permanent pit. In addition, consider the redline changes to the proposed language below.

Q: DO YOU HAVE SPECIFIC SUGGESTIONS FOR REVISING THE RULE?

A: Yes. The Group proposes revisions to the definitions in 20.2.50.7 DD and II to remove “recycling facility” and add “or pond”.

Q: HAVE YOU PREPARED SPECIFIC REVISIONS TO THE RULE THAT IMPLEMENT WHAT YOU JUST DESCRIBED?

A: Yes. Our proposed revisions are shown in the redline below.

20.2.50.7 DEFINITIONS

DD. “Permanent pit or pond” means a pit or pond used for collection, retention, or storage of produced water or brine and is installed for longer than one year.

II. “Produced water management unit” means ~~a recycling facility or~~ a permanent pit or pond that is a natural topographical depression, man-made excavation, or diked area formed primarily

1 of earthen materials (although it may be lined with man-made materials), which is designed to
2 accumulate produced water and has a design storage capacity equal to or greater than 50,000
3 barrels.

4 **20.2.50.126 PRODUCED WATER MANAGEMENT UNITS**

5 **A. Applicability:** Produced water management units as defined in this Part are subject to
6 20.2.50.126 NMAC and shall comply with these requirements no later than 180 days after the
7 effective date of this Part. Except that sources located at a facility or containment that are
8 permitted or registered with the State of New Mexico, Oil Conservation Division as a recycling
9 facility or containment are not subject to 20.2.50 NMAC.

10 **B. Emission standards:**

11 ~~(1)~~ The owner or operator shall use best management and good engineering practices to
12 minimize emissions of VOC from produced water management units.

13 ~~(2) The owner or operator shall control VOC emissions from each produced water management~~
14 ~~unit to less than two tons per year.~~
15

16 **IV. TRANSFER OF OWNERSHIP COMPLIANCE EVALUATION (20.2.50.112.C(3))**

17 **Q: DO YOU HAVE CONCERNS ABOUT 20.2.50.112.C(3) NMAC AS PROPOSED**
18 **BY NMED?**

19 A: Yes.

20 **Q: PLEASE SUMMARIZE YOUR CONCERNS.**

21 A: In addition to the Groups direct testimony for this provision, the Group would like to
22 support NMOGA's direct testimony for striking 20.2.50.112.C(3) from the rule language.

23 **Q: DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

24 A: Yes.

Appendix C

Rebuttal Testimony of Lori Marquez and Attachment 1

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↑ I 4.6: 1.1.16. SNGL F. B. 4. LB ("NGL") 9.1: IV. M.1.

[illegible]

1 permit applications in certain circumstances. The proposed 20.2.50.112.A.(11) should be rejected in
2 its entirety.

3 **Q: WHAT REGULATORY LANGUAGE DID WEG PROPOSE?**

4 A: WEG proposed to insert the following language:

5 20.2.50.112.A.(11) In permitting a stationary source subject to this Part pursuant
6 to 20.2.72, 20.2.74, or 20.2.79 NMAC, the department shall deny any application
7 for a permit or permit revision, including any general permit registration, where
8 construction or modification will cause or contribute to air contaminant levels in
9 excess of ninety-five percent of any primary National Ambient Air Quality
10 Standard for ozone. Compliance with this Part does not demonstrate that a
stationary source will not cause or contribute to exceedances of any National
Ambient Air Quality Standard or New Mexico ambient air quality standard.

11 **Q: HAS WEG PROPOSED SIMILAR REQUIREMENTS IN THE PAST?**

12 A: The proposed permitting constraints are very similar to those that WEG unsuccessfully
13 asserted in 2020 when it appealed the Department's approval of one construction permit and three
14 General Construction Permit – Oil and Gas (“GCP Oil and Gas”) registrations for facilities in Lea
15 and Eddy Counties. *In re: Appeals of Air Quality Permit No. 7482-M1 and Registration Nos. 8729,*
16 *8730, and 8733, EIB Nos. 20-21(A) and 20-33(A).* I testified as a witness on behalf of 3 Bear
17 Operating Delaware – LLC, which operates one of the facilities that was the subject of the appeal. I
18 will refer to this case as the Administrative Permit Appeal. The Board rejected all of WEG's claims
19 in the Administrative Permit Appeal. WEG subsequently appealed the Board's decision in court.
20 The judicial case has not been completed.

22 **Q: PLEASE SUMMARIZE YOUR REASONS FOR OPPOSING WEG'S PROPOSAL.**

23 A: The proposed permitting constraints are unworkable and inconsistent with each of the
24 affected permitting programs, namely the minor source permitting program and GCP registration
25 requirements under 20.2.72 NMAC, the Prevention of Significant Deterioration (PSD) permitting
26 program under 20.2.74 NMAC, and the Nonattainment New Source Review (NANSR) permitting
27 program under 20.2.79. I address each of these permitting programs below.
28

1 **Q: AS AN INITIAL MATTER, WHAT DOES IT MEAN FOR A NEW OR MODIFIED**
2 **SOURCE TO “CAUSE OR CONTRIBUTE” TO A VIOLATION OF A NATIONAL**
3 **AMBIENT AIR QUALITY STANDARD (NAAQS)?**

4 A: The cause or contribute test originated in Section 165(a)(3) of the Clean Air Act, which
5 prohibits the construction of a PSD major source unless the owner or operator demonstrates that
6 “emissions from construction or operation of such facility will not cause, or contribute to, air
7 pollution in excess of any . . . national ambient air quality standard.” 42 U.S.C. § 7475(a)(3)(B).
8 The Board’s regulations incorporate the cause or contribute test into its PSD and minor source
9 permitting rules. 20.2.74.303.B(1) and 20.2.72.208.D, NMAC. EPA guidance documents explain
10 that permit applicants may demonstrate a new or modified source will not cause or contribute to a
11 violation of a National Ambient Air Quality Standard (NAAQS) either by showing that no NAAQS
12 violation is occurring or projected, or by showing that the source’s “projected impact on air quality
13 at the site of a modeled violation is below a level of air quality impact considered to be significant.”
14 *Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of*
15 *Significant Deterioration Permitting Program*, at 4-5, EPA (April 17, 2018). EPA has established a
16 significant impact level (SIL) of 1.0 parts per billion (ppb) for the 2015 ozone NAAQS. *Id.* at 15,
17 Table 1. New Mexico also uses a 1.0 ppb significance level to evaluate whether the emissions from
18 a project will cause or contribute to an ozone NAAQS violation. New Mexico Air Quality Bureau
19 “Air Dispersion Modeling Guidelines” (June 6, 2019) § 2.6.5, Table 5E and note 2.

20 **Q: HOW WOULD WEG’S PROPOSAL IMPACT THE MINOR SOURCE**
21 **CONSTRUCTION PERMITTING PROGRAM?**

22 A: If the Department follows its existing permit processing procedures, including its Air
23 Dispersion Modeling Guidelines and its significance level for ozone, the impact on the process for
24 submitting and issuing individual minor source construction permits should be quite limited. The
25 Board’s regulation at 20.2.72.208.D NMAC contains a similar prohibition on issuing individual

1 permits to a minor source that causes or contributes to a violation of any NAAQS. While this
2 requirement may impact sources of other pollutants, minor sources of ozone precursors do not cause
3 or contribute to violations of the ozone NAAQS. Testimony in the Administrative Permit Appeal
4 showed that individual minor sources of volatile organic compounds (VOCs) and nitrogen oxides
5 (NOx) in New Mexico do not cause or contribute to ozone exceedances because their emissions are
6 too low to result in ambient ozone impacts equal to or above the 1.0 ppb significance level. The
7 Board entered a finding of fact that “the air impacts of any minor source — i.e. a source that emits
8 less than 250 tpy per year of ozone precursors — will be below the SIL and are therefore not
9 considered to cause or contribute to ozone levels in violation of the NAAQS.” 2021 Final Order
10 ¶ 74. In addition, the Air Dispersion Modeling Guidelines recognize that “[o]zone is normally only
11 modeled for regional compliance demonstrations and does not need to be modeled for air quality
12 permits.” Air Dispersion Modeling Guidelines § 2.6.5. The Board found that photochemical ozone
13 modeling for the Ozone Attainment Initiative cost over \$300,000. 2021 Final Order ¶ 66. The Board
14 accordingly concluded that “a permit applicant for a minor source is not required to make an
15 individual demonstration of its impacts on ambient ozone concentrations.” 2021 Final Order ¶ 102.
16 If the Air Dispersion Modeling Guidelines and significance levels are applied in the same manner to
17 WEG’s proposed rule, minor sources would likewise have no need to make individual
18 determinations.

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22 **Q: IN WHAT SCENARIO COULD WEG’S PROPOSAL HAVE AN IMPACT ON**
23 **MINOR SOURCE PERMITTING?**

24 **A:** WEG has asked the New Mexico Court of Appeals to overturn the Board’s decision in the
25 Administrative Permit Appeal. *WEG v. NMED*, No. A-1-CA-39522 (N.M. Ct. App, filed Feb. 19,
26 2021). WEG has not yet filed a briefing on the merits in its judicial appeal but previously argued
27 that the Department must model or otherwise evaluate an individual minor source’s ozone
28 contribution and that the SILs should not apply. The outcome of judicial review could drive changes

1 to the Department's implementation of 20.2.72 NMAC, making it impossible to predict the effect of
2 WEG's proposed rule on the minor source permitting program. This unpredictability makes it risky
3 for the Board to adopt WEG's proposal.

4 **Q: IS IT FEASIBLE FOR INDIVIDUAL MINOR SOURCE PERMIT APPLICANTS TO**
5 **DEMONSTRATE THAT THE PROJECT WILL NOT CAUSE OR CONTRIBUTE TO**
6 **AMBIENT OZONE IMPACTS IN EXCESS OF 95% OF THE NAAQS?**
7

8 A: No. It is not economically feasible to model the single-source ozone impacts of individual
9 minor sources. Photochemical ozone modeling estimates regional impacts and costs hundreds of
10 thousands of dollars, as explained in the Department's Air Dispersion Modeling Guidelines and the
11 2021 Final Order. The cost is prohibitive for individual minor source permit applications. If a minor
12 source permit applicant were to incur the expense of photochemical modeling, the additional
13 emissions may be too small in comparison to total regional emissions for the model to accurately
14 estimate the single-source ozone impact. As noted above, EPA's screening tool indicates that the
15 ozone impacts of an individual minor source in New Mexico are below the significance threshold. If
16 operators submitted photochemical modeling results, it could create unacceptable delays in
17 processing permit applications. In addition to the time required for the applicant to conduct
18 modeling, time will be needed for the Department to review it. These modeling efforts would be
19 complicated and time consuming to review. If the Department must review numerous modeling
20 exercises and cause or contribute demonstrations, it may be unable to meet the 90-day statutory
21 time frame of Section 74-2-7B(2)(a) NMSA for issuing minor source permits. It is also notable that
22 Colorado, Oklahoma, and Texas issue minor source permits without requiring a demonstration that
23 the minor source will not cause or contribute to a violation of the ozone NAAQS. 2021 Final Order
24 ¶ 84. These states each have federally designated ozone nonattainment areas or areas where ozone
25 levels exceed 95% of the NAAQS, and all have significant oil and gas operations. During the
26 Administrative Permit Appeal, WEG was unable to identify any jurisdiction that requires individual
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1 minor source permit applicants to make a cause or contribute demonstration without the benefit of a
2 significance threshold. 2021 Final Order ¶ 85.

3 **Q: OTHER THAN THE 95% THRESHOLD, HOW DO WEG'S PROPOSED**
4 **CONSTRAINTS ON ISSUING INDIVIDUAL MINOR SOURCE PERMITS DIFFER FROM**
5 **THOSE FOUND IN 20.2.72.208.D NMAC?**

6
7 A: Section 20.2.72.208.D allows the Department to issue individual minor source permits to
8 facilities that will cause or contribute to a NAAQS violation if the facilities offset their ambient air
9 impacts. WEG's proposal fails to provide an opportunity for permit applicants to qualify for a
10 permit through offsetting emission reductions. However, allowing emissions offsets would not fix
11 the proposal. WEG's proposal would be inconsistent with existing rules and unworkable even if an
12 emissions offset provision were included.

13
14 **Q: DO YOU HAVE CONCERNS ABOUT WEG'S PROPOSAL TO RESTRICT THE**
15 **USE OF GCP-OIL AND GAS REGISTRATIONS WHERE THE PROJECT WILL CAUSE**
16 **OR CONTRIBUTE TO AMBIENT OZONE LEVELS IN EXCESS OF 95% OF THE**
17 **NAAQS?**

18 A: Yes. Any geographic limits on the use of GCP registrations must be tied to the EPA's formal
19 designations of nonattainment areas. For example, the GCP-Oil and Gas is not available in
20 designated nonattainment areas. 2021 Final Order ¶¶ 134, 154-161; GCP-Oil and Gas § A100H(6).
21 In contrast to this clear standard, WEG's amorphous proposal leaves unanswered questions
22 regarding where and when operators could utilize GCP-Oil and Gas registrations. WEG's proposal
23 is similar to its unsuccessful arguments in the Administrative Permit Appeal that the availability of
24 GCP registrations should depend on monitored ozone levels. The proposal cannot be successfully
25 implemented because no process exists to identify areas where ozone concentrations exceed 95% of
26 the NAAQS, draw their boundaries, or establish their effective dates. Permit applicants and
27 consultants like myself will be unable to determine whether the proposed rule applies to any given
28

1 facility. I agree with the Board's conclusion that basing the geographic availability of the GCP-Oil
2 and Gas on monitored ozone concentrations "would be unworkable, and would result in serious
3 disruption to the Department's permitting program and significant uncertainty for regulated entities
4 seeking permits for a new or modified facility." 2021 Final Order ¶ 165.

5 **Q: PLEASE EXPLAIN THE CHALLENGES OF DETERMINING THE GEOGRAPHIC**
6 **AREAS THAT WOULD BE COVERED BY WEG'S PROPOSED RESTRICTION ON**
7 **GENERAL PERMIT REGISTRATIONS.**

8 **A:** Permit applicants will lack prerequisite information needed to determine whether they may
9 use the GCP-Oil and Gas. Disputes are likely to arise over the ambient ozone concentration
10 applicable to any given GCP registration at any snapshot in time. Ambient concentrations fluctuate
11 constantly but WEG's proposal is silent regarding monitoring periods and effective dates. Even if
12 these issues are resolved and the ambient ozone concentrations at each monitoring site are
13 established for a given period of time, questions about area boundaries will remain. Monitors are
14 sited at discrete locations. Ambient concentrations are measured only at the monitoring sites. An
15 operator who wishes to submit a GCP-Oil and Gas registration for a facility located between two
16 monitors must know which monitoring site's ozone level applies to the facility in order to comply
17 with the proposed rule. The proposed rule cannot be implemented because it does not address these
18 foundational issues, leaving general permit registrants and the Department unable to determine
19 when or where the restrictions apply.

20 **Q: HOW WILL WEG'S PROPOSAL AFFECT THE USE OF GCP-OIL AND GAS**
21 **REGISTRATIONS AT FACILITIES COVERED BY THE RULE?**

22 **A:** The proposal will significantly decrease the value of GCP-Oil and Gas registrations for
23 facilities located in areas covered by the rule. General construction permits are intended to provide a
24 streamlined permitting option for minor sources that are "generally homogeneous in terms of
25 operations, processes and emissions, subject to the same or substantially similar requirements, and
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1 not subject to case-by-case standards or requirements.” 20.2.72.220.A(1). General construction
2 permits are more efficient to prepare and process than individual permits. This reduces costs and
3 saves time for operators and the Department. WEG’s proposal would undermine these efficiency
4 gains by forcing operators to complete a cause or contribute demonstration to determine whether a
5 facility is eligible for the GCP-Oil and Gas. The efficiency disbenefits will be magnified if WEG’s
6 proposal is interpreted to require the Department to affirmatively review each registration to verify
7 that it will not cause or contribute to ozone levels in excess of 95% of the NAAQS. These efficiency
8 losses will not have corresponding air quality benefits because, as described above, EPA’s Modeled
9 Emission Rates for Precursors screening tool indicates that individual minor sources of VOCs and
10 NOx in New Mexico do not cause or contribute to exceedances of the ozone NAAQS.

11 **Q: IS WEG’S PROPOSED CAUSE OR CONTRIBUTE STANDARD CONSISTENT**
12 **WITH THE PSD PERMITTING REQUIREMENTS FOR MAJOR SOURCES AND MAJOR**
13 **MODIFICATIONS IN ATTAINMENT OR UNCLASSIFIABLE AREAS?**

14 **A:** The PSD program contains rigorous permitting requirements to enable economic growth to
15 occur in a manner that preserves clean air resources. Obtaining a permit for a facility subject to PSD
16 preconstruction review is an intensive and time-consuming process. To receive a permit the owner
17 or operator must demonstrate that the allowable emissions increase from the proposed new major
18 source or major modification, including secondary emissions, in conjunction with all other
19 applicable emissions increases or reductions, including secondary emissions, will not cause or
20 contribute to a violation of any NAAQS or maximum allowable increase over the area’s baseline
21 concentration (known as an “increment”). 20.2.74.303.B NMAC. The facility must apply the Best
22 Available Control Technology (BACT), which is an emissions limitation based on the maximum
23 degree of reduction that is achievable for each pollutant subject to regulation emitted from the
24 facility. 40 C.F.R. § 52.21(b)(12). BACT is determined on a case-by-case basis, taking into account
25 energy, environmental, and economic impacts and other costs. *Id.* Facilities that apply BACT are
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1 extremely well controlled and should be permitted to construct and operate. WEG's proposal would
2 disrupt Congress' carefully crafted permitting program by setting a lower threshold for the cause or
3 contribute demonstration that is not necessary for such well-controlled sources.

4 **Q: WHAT ARE YOUR CONCERNS REGARDING THE IMPACT OF WEG'S**
5 **PROPOSAL ON THE ISSUANCE OF AIR QUALITY PERMITS IN OZONE**
6 **NONATTAINMENT AREAS?**
7

8 A: WEG's proposal is incompatible with the Department's NANSR permitting program
9 because it conflicts with the emissions offset programs established under Section 182 of the Clean
10 Air Act. New or modified major sources of VOCs or NOx in designated nonattainment areas are
11 subject to the NANSR permitting requirements of 20.2.79, NMAC. Among other things, Part 79
12 requires major sources in nonattainment areas to comply with the Lowest Achievable Emission Rate
13 (LAER) and obtain offsetting emission reductions. 20.2.79.112.A, NMAC (LAER); 20.2.79.112.C,
14 NMAC (offsets). The NANSR permitting program does not preclude the issuance of permits to
15 major sources or major modifications in nonattainment areas that may cause or contribute to an
16 ozone NAAQS violation.
17

18 **Q: PLEASE DESCRIBE THE NANSR EMISSIONS OFFSET PROGRAM.**
19

20 A: The NANSR major source permitting program ensures ozone nonattainment areas make
21 progress toward attainment by requiring offsetting emission reductions elsewhere in the same
22 nonattainment area or in an ozone nonattainment area with an equal or higher classification with
23 emissions that contribute to nonattainment in the first area. It is not necessary for the offsetting
24 emissions reductions to come from the same location as the new or modified source because ozone
25 is a secondary pollutant that is not emitted directly from a facility. The NANSR permitting program
26 also requires that actual emissions offsets must be 1.1 to 1.5 times greater than the potential
27 emissions increase resulting from construction or modification of the major source. 20.2.79.109.J
28 NMAC. Operators must offset a potential emission increase with actual emission reductions.

1 Because facilities normally emit less than their potential emissions rate, the rule effectively requires
2 operators to offset emissions that are not occurring, making the real-world offset ratio greater than
3 what is stated in 20.2.79.109.J NMAC. Because the emission reductions more than offset any
4 emissions increase, it is appropriate for Part 79 not to require a cause or contribute demonstration
5 for new or modified sources in an ozone nonattainment area.
6

7 **Q: HOW WOULD REQUIRING A CAUSE OR CONTRIBUTE DEMONSTRATION**
8 **INTERFERE WITH THE NANSR PERMITTING PROGRAM?**

9 A: Requiring sources in nonattainment areas to prepare a cause or contribute demonstration and
10 prohibiting the issuance of permits to sources that cause or contribute to concentrations in excess of
11 95% of the NAAQS would significantly alter the NANSR permitting program. Cause or contribute
12 demonstrations are a feature of PSD permitting. They arose from a separate statutory requirement
13 and function very differently than the NANSR emissions offset program. Grafting the cause or
14 contribute test onto NANSR permitting would prohibit the construction or modification of some
15 facilities in ozone nonattainment areas even though they fulfill existing state and federal
16 requirements. Not only would this disrupt the permitting program, it would have the perverse effect
17 of preventing these areas from experiencing the larger emission reductions that would be obtained
18 through emissions offsets.
19

20 **Q: DID WEG SUBMIT ANY DATA, CALCULATIONS, OR OTHER INFORMATION**
21 **IN SUPPORT OF ITS PROPOSAL?**
22

23 A: No. WEG asserted that its proposal is “critical” and “essential” but did not provide any
24 supporting data. The group merely argued that its proposal is consistent with NMED’s current
25 permitting regulations and would “slow or pause the pace of permitting.” WEG Exh. 1 at 9. This
26 stands in contrast to the Department’s proposal, which establishes emission limits, control
27 measures, technology requirements, and other strategies to reduce emissions.
28

1 **Q: DO YOU HAVE SPECIFIC SUGGESTIONS FOR THE BOARD'S RESPONSE TO**
2 **WEG'S PROPOSAL?**

3 A. Yes. WEG's proposed revisions to 20.2.50.112.A(11) should be rejected in their entirety.
4 The proposal is inconsistent with the Board's existing permitting regulations for minor sources,
5 GCP-Oil and Gas registrations, PSD major source permits, and NANSR. WEG's proposal to
6 impose a cause or contribute test cannot be implemented because of several fatal flaws.
7 Photochemical ozone modeling is performed on a regional basis and minor sources have been
8 shown not to cause or contribute to exceedances of the ozone NAAQS. Operators who wish to use
9 the GCP-Oil and Gas could not comply with the rule because there are no mechanisms to identify
10 the boundaries of areas where ozone concentrations exceed 95% of the NAAQS or to establish the
11 effective dates of any exceedance. Imposing a cause or contribute test on facilities in nonattainment
12 areas would significantly disrupt the SIP-approved NANSR permitting program and conflict with
13 the existing emissions offset rules. I am not aware of any other jurisdiction that applies the cause or
14 contribute test in the manner WEG proposes, and WEG's expert witness in EIB Nos. 20-21(A) and
15 20-33(A) was unable to identify any jurisdiction that requires minor source permit applicants to
16 calculate the facility's single-source ozone contribution. The Board recently rejected WEG's
17 attempt to require applicants for individual permits to calculate single-source ozone impacts and its
18 attempt to prohibit the use of the GCP-Oil and Gas in designated attainment areas based solely on
19 the existence of monitored ozone exceedances. WEG has not addressed any of these concerns and
20 its proposed permitting restrictions continue to be unworkable.
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24 **Q: DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

25 A: Yes.
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**STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT BOARD**



**IN THE MATTER OF THE APPEALS
OF THE AIR QUALITY PERMIT
NO. 7482-M1 ISSUED TO 3 BEAR
DELAWARE OPERATING – NM LLC**

EIB No. 20-21(A)

AND

**REGISTRATION NOS. 8729, 8730, AND 8733
UNDER GENERAL CONSTRUCTION PERMIT
FOR OIL AND GAS FACILITIES**

EIB No. 20-33(A)

**WildEarth Guardians,
*Petitioner***

FINAL ORDER

BACKGROUND

These consolidated appeals arise out of permitting actions taken by the New Mexico Environment (“Department”) with respect to four minor source oil and gas facilities in Southeastern New Mexico. EIB 20-21(A) involves the Department’s approval of Air Quality Permit No. 7482-M1 (“3-Bear Permit”), issued to 3-Bear Delaware Operating – NM LLC (“3-Bear”) for its Libby Gas Plant (“the Libby Plant”) in Lea County, New Mexico. EIB 20-33(A) involves the Department’s approval of General Construction Permit for Oil and Gas Facilities (“GCP O&G”) Registration Nos. 8729, 8730, and 8733 (collectively, the “GCP Registrations”) issued to XTO Energy Co. (“XTO”) for its Corral Canyon 23 and Big Eddy Unit DI 38 facilities (Nos. 8729 and 8730, respectively), and Spur Energy Partners LLC (“Spur”) for its Dorami 2H, 4H and 9H Federal Oil Tank Battery (No. 8733), all of which are located in Eddy County.

On May 11, 2020, WildEarth Guardians (“WEG”) filed its Petition for Hearing in EIB 20-21(A), appealing the Department’s approval of the 3-Bear Permit. On June 12, 2020, WEG filed its Petition for Hearing in EIB 30-33(A), appealing the Department’s approval of the GCP Registrations. Both appeals seek rescission of the permits in their entirety on the basis that the

permitted sources will emit ozone precursor pollutants – namely, oxides of nitrogen (“NOx”), and volatile organic compounds (“VOCs”) – in counties where monitor readings are showing ozone levels exceeding the National Ambient Air Quality Standard (“NAAQS”). The appeals were consolidated for hearing, and the Parties stipulated that the specific emission limits, emission limit calculations, and permit conditions of the 3-Bear Permit and the GCP Registrations are not at issue in the appeals, and therefore no testimony on those subjects would be accepted.¹

WEG, the Department, and the Permittees submitted pre-filed written direct and rebuttal technical testimony. On September 23 and 24, 2020, the Board held a consolidated public hearing in EIB 20-21(A) and EIB 20-33(A). At the public hearing, appearances were entered on behalf of WEG, the Department, 3-Bear, XTO, Spur, and the Western Environmental Law Center. Members of the public were provided opportunities to be heard during the hearing, and three individuals provided public comment.

On January 22, 2021 the Board met to deliberate and consider the Hearing Officer’s Recommended Decision. By a vote of ____, the Board decided to adopt the Hearing Officer’s Recommended Decision. This Final Order is issued pursuant to 20.1.2.403(B) NMAC.

**JOINT FINDINGS OF FACT FOR
EIB NO. 20-21(A) AND EIB NO. 20-33(A)**

I. Regulation of Ozone Under Federal and State Law

A. Ground Level Ozone Chemistry and Formation

1. The ozone molecule is composed of three oxygen atoms. Ground level ozone is formed when nitrogen oxides (“NOx”) and volatile organic compounds (“VOCs”) react in the presence of sunlight. As the amount of these compounds increase in the air during warm days and intense sunlight, the essential chemical reactions take place to form ozone. NMED Exh. 1, Direct

¹ See Procedural Order at p.3 (filed July 20, 2020)

Technical Testimony of Sufi Mustafa (“Mustafa Direct”) at 5:15-18.

2. Man-made, or anthropogenic sources of NO_x include products of fuel combustion. VOCs are emitted from various anthropogenic sources and processes such as motor vehicles; chemical manufacturing facilities; evaporative losses from crude oil holding tanks; and consumer and commercial products. Natural sources of nitrogen oxides include lightning NO_x, microbial processes that occur in soils, and wildland fires. Vegetation is the major natural source of VOCs; other natural sources include animals and microbes. *See id.* at 5:20 – 6:3.

3. Ozone is a reactive molecule that causes irritation and inflammation to the respiratory system and tissue damage to vegetation. While ozone is beneficial when it is present in the stratosphere to block harmful light radiation from reaching us, it is harmful when it is present in the lower troposphere, where we live and breathe. *See id.* at 5:4-7.

B. National Ambient Air Quality Standards

4. The federal Clean Air Act requires the U.S. Environmental Protection Agency (“EPA”) to set National Ambient Air Quality Standards for pollutants that EPA determines may endanger public health and welfare. *See* 40 U.S.C. § 7409; NMED Exh. 5, Technical Testimony of Elizabeth Bisbey-Kuehn (“Kuehn Direct”) at 3:18. These standards are in the form of maximum allowable concentrations of the pollutant in the ambient air during a specified time period, and are designed to protect the most sensitive individuals from harm from airborne pollutants. NMED Exh. 1 (Mustafa Direct) at 3:13-16.

5. Pursuant to the directives under the CAA, EPA has established NAAQS for six principal pollutants, known as “criteria pollutants”. These pollutants are carbon monoxide (“CO”); nitrogen dioxide (“NO₂”); sulfur dioxide (“SO₂”); particulate matter (“PM”) at 10 microns or less (referred to as coarse particulate matter) and 2.5 microns or less (referred to as fine particulate matter); ground level ozone; and lead. *See* 40 C.F.R. Part 50; NMED Exh. 5 (Kuehn Direct) at 4:1-

3; NMED Exh. 1 (Mustafa Direct) at 3:17-20.

6. Whether an area is in compliance with a NAAQS is measured by “design values” based on monitoring data. The design value for ozone is determined by calculating the three-year average of the annual fourth highest daily maximum 8-hour ozone concentration. *See* NMED Exh. 5 (Kuehn Direct) at 4:15-18.

7. The CAA requires EPA to review the NAAQS on a periodic basis, which may result in the standards being revised based on health and environmental criteria that apply to the concentration of a pollutant in outdoor air to limit harmful exposures and detrimental effects. *See id.* at 4:3-6.

8. In October of 2015, following a periodic review, EPA revised the ozone NAAQS downward from 75 parts per billion (ppb) to 70 ppb. *See id.* at 5:8-9.

C. Non-Attainment Designation Process

9. Following promulgation of a new or revised NAAQS, EPA undertakes a process of “designating” areas of a state as in “attainment” or “nonattainment” of the standard. The designation process entails collaborating with states and tribes and considering data and information from air quality monitors and modeling. If the concentration of a criteria pollutant in a geographic area is at or below the national standard, the area is designated as an “attainment area” for that pollutant. Conversely, an area where the concentration of a criteria pollutant is above the national standard will be designated as a “nonattainment area” with respect to that pollutant. *See* 42 U.S.C. § 7407(d); NMED Exh. 5 (Kuehn Direct) at 4:7-14.

10. The Clean Air Act defines “nonattainment area” as follows: “[F]or any air pollutant, an area which is designated ‘nonattainment’ with respect to that pollutant within the meaning of section 7407(d) of this title.” 42 U.S.C. § 7501(2).

11. The definition of “nonattainment area” in the New Mexico Air Quality Control Act

(“AQCA”), NMSA 1978, §§ 74-2-1 through -17, is identical to the definition in the CAA. *See* NMSA 1978, § 74-2-2(N).

12. Section 7407(d) of the CAA lays out the process for designation of a nonattainment area, which includes each State submitting initial designations within one year of promulgation of the standard, and EPA reviewing the States’ initial designations and promulgating final designations of all areas within two years of promulgation of the standard.

13. In reviewing a state’s proposed designations, EPA can make modifications, including to the boundaries of the proposed designated areas, after which the state has an opportunity to challenge those modifications. *See* 42 U.S.C. 7407(d).

14. Once the boundaries of the nonattainment area have been defined and designated, the area is then classified as marginal, moderate, serious, severe, or extreme. *See* 42 U.S.C. § 7511. Classifications are determined based on the severity of the exceedance of the NAAQS, along with the degree to which the State in which the area is located has the ability to control the sources of ozone that are contributing to that exceedance. *See* 42 U.S.C. § 7511(a)(4); NMED Exh. 5 (Kuehn Direct) at 5:1-2.

15. State and local governments are required to develop a plan, known as a state implementation plan (“SIP”), that details how nonattainment areas will improve the air quality to attain and maintain the standards. Once a nonattainment area meets the standards, states can petition EPA to designate the area as a maintenance area. *See* NMED Exh. 5 (Kuehn Direct) at 5:3-6.

D. New Mexico Designations Following Promulgation of the 2015 Ozone NAAQS

16. In October 2015, following a periodic review, EPA revised the ozone NAAQS downward from 0.075 parts per million (ppm) to 0.070 ppm. *See* NMED Exh. 5 (Kuehn Direct) at 5:8-9.

17. Until the promulgation of the 2015 ozone NAAQS, New Mexico had no designated ozone nonattainment areas in the State. *See id.* at 5:6-7.

18. Following promulgation of the revised ozone NAAQS, all states were required to submit their designation recommendations to EPA by October 1, 2016. Ozone data collected by NMED from 2014 through 2016 showed that a monitor located in the Sunland Park area in southern New Mexico was exceeding the revised ozone standard, as measured by the design values. *See id.* at 5:9-12.

19. NMED submitted a nonattainment area recommendation for the Sunland Park area and recommended attainment or attainment/unclassifiable designations for the remainder of areas in New Mexico. EPA concurred with the recommendations and finalized the area designations for New Mexico on August 3, 2018. *See id.* at 5:9-15.

20. Lea and Eddy Counties were designated as attainment areas for the 2015 ozone NAAQS, and they remain designated as such, following EPA's proposal to retain that designation as of January 16, 2018. *See* NMED Exh. 11, Rebuttal Technical Testimony of Elizabeth Bisbey-Kuehn ("Kuehn Rebuttal"), at 4:8-12.

21. EPA classified the Sunland Park nonattainment area as marginal, allowing NMED 3 years to develop a SIP revision that includes the planning elements required for a marginal nonattainment classification. The SIP revision outlines the strategies and emissions control measures that are expected to reduce the amount of ozone precursors emitted to the atmosphere and improve air quality in the area by August 3, 2021. States may rely on current or upcoming federal rules, new or revised state rules, and other programs, such as the New Mexico Volkswagen mitigation plan projects and the 2021 Regional Haze SIP revision. *See* NMED Exh. 5 (Kuehn Direct) at 5:16-22.

22. On July 13, 2020, EPA proposed to retain the existing 2015 ozone NAAQS. The

CAA does not require EPA to promulgate area designations when an existing NAAQS is retained following the periodic review process. *See id.* at 6:1-3.

23. While not required, the CAA provides that EPA can redesignate an area in the absence of a new or revised NAAQS. This can happen upon EPA's own initiative by notifying the Governor that available information indicates that the designation of an area within the state should be revised. The Governor of a state can also request that EPA redesignate an area of the state. However, EPA must evaluate and approve such a request. Ultimately, EPA retains the sole authority to redesignate an area from attainment to nonattainment, or vice versa. *See* 42 U.S.C. §7407(d)(3); Tr. Vol. 1, 203:9-19.

24. In deciding whether to redesignate an attainment area as a nonattainment area, EPA can consider measures being implemented by a state to address monitored exceedances. *See* Tr. Vol. 203:20 – 204:4.

25. New Mexico's current ozone designations under the CAA will remain in place unless and until the ozone NAAQS is revised again, EPA decides that a redesignation is appropriate, or the Governor requests a redesignation and EPA approves that request. *See* 42 U.S.C. § 7407(d)(3); NMED Exh. 5 (Kuehn Direct) at 6:4-6.

E. Ozone Regulation Under the New Mexico Air Quality Control Act

26. Section 74-2-5.3 of the AQCA specifically mandates that the Board take action to control VOC and NO_x emissions when the Board determines that emissions from sources within its jurisdiction cause or contribute to ozone concentrations in excess of ninety-five percent of the ozone NAAQS. *See* NMSA 1978, § 74-2-5.3.

27. Under this statutory provision, the Board is required to adopt a plan, including regulations, to control emissions of NO_x and VOCs, to provide for the attainment and maintenance of the ozone standard for those areas that exceed 95% of the ozone standard. *See id.* at 74-2-5.3(A).

28. In accordance with this section, the Board is required to consider the following in the adoption of regulations:

- (1) the public interest, including the social and economic value of the sources of emissions and subjects of air contaminants;
- (2) previous experience with equipment and methods available to control the air contaminants involved;
- (3) energy, environmental and economic impacts and other social costs;
- (4) efforts by sources of emissions to reduce emissions prior to the effective date of regulations adopted under this section; and
- (5) for existing sources of emissions, the remaining useful life of any existing source to which the regulation would apply.

Id. at 74-2-5.3(C).

29. Seven counties under the Board's jurisdiction are currently registering or contributing to ozone design values exceeding 95% of the NAAQS: San Juan, Rio Arriba, Sandoval, Valencia, Eddy, Lea, and Doña Ana. *See* NMED Exh. 5 (Kuehn Direct) at 7:11-13.

30. To address this statutory requirement, the Bureau has embarked upon the Ozone Attainment Initiative ("OAI") to develop a series of rules and voluntary measures to mitigate emissions of NO_x and VOCs in the aforementioned counties. *See id.* at 7:14-16.

31. A proposed rule to control NO_x and VOC emissions from various types of equipment related to the production of oil and gas in the South San Juan and Permian Basins has been developed, and the Bureau intends to bring this proposal to the Board for a hearing. *See id.* at 7:14-23.

F. Other Ozone Mitigation Efforts in New Mexico

32. The oil and gas industry is not the only significant contributor to monitored ozone concentrations in New Mexico; previously conducted regional modeling efforts, including the Southern New Mexico Ozone Study ("SNMOS") completed in 2016, have shown that emissions from onroad mobile sources are the largest New Mexico anthropogenic contribution to the design

values at most monitors in southern New Mexico. *See* NMED Exh. 5 (Kuehn Direct) at 8:1-5; NMED Exh. 7, 2016 SNMOS Technical Support Document, at p. 81.

33. Section 177 of the Clean Air Act allows other states to adopt California's motor vehicle emission standards, and the Department intends to bring before the Board regulations setting standards for low emission vehicles ("LEV"), and zero emission vehicles ("ZEV") for adoption in 2021 that will provide further mitigation of ozone precursors. *See* 42 U.S.C. §7507; NMED Exh. 5 (Kuehn Direct) at 8:6-10.

34. The Department has also submitted a letter of participation to EPA for the Ozone Advance Program. That program is a means to promote local actions in areas designated as in attainment to reduce ozone and/or fine particulate pollution for the continued maintenance of the NAAQS. The Bureau will coordinate efforts with local governments that wish to take proactive steps towards the protection of air quality. In addition to positioning areas to avoid a nonattainment designation, it can allow communities to choose control measures that are cost effective and that make the most sense for their area, potentially resulting in multi-pollutant benefits. *See* NMED Exh 5 (Kuehn Direct) at 8:11-18.

35. In addition to the OAI and Ozone Advance, the Bureau is also working with the City of Albuquerque on preparing revised Regional Haze State Implementation Plans for submittal to EPA in July of 2021. The goal of the Regional Haze provisions of the CAA is to improve visibility in national parks and wilderness areas (referred to as "Class I areas"), and states are required to make reasonable progress over time towards the long-term goal of attaining natural visibility conditions by 2064. The Regional Haze program requires states to submit Regional Haze State Implementation Plans approximately once every ten years. Additional controls for certain emission units adopted as part of the 2021 Regional Haze SIP revision will also serve to reduce the formation of ozone. *See id.* at 8:22 – 9:11.

36. While the Department and the Board have authority to take action to reduce ozone precursor emissions from anthropogenic sources in New Mexico within their regulatory jurisdiction that contribute to ozone design values, contributions from other sources are beyond the Department's and the Board's control. For instance, the SNMOS evaluated contributions to design values at monitors in southern New Mexico in the base year (2011) and a future year (2025). The most frequent contributors to the design values of the six Doña Ana County monitors were on-road mobile sources (New Mexico, Texas, and Mexico), natural sources (Mexico), electric generating units ("EGUs") (Mexico), non-EGU point sources (Mexico), and oil and gas (Texas). *See id.* at 9:14:19; NMED Exhibit 6, SNMOS Technical Support Document, at p. 67.

37. Therefore, it is possible that, even with all the regulatory efforts of the Board and the Department, some areas of the State may not be able to reach or stay in attainment of the ozone NAAQS. In that case, the regulatory path will be a formal nonattainment designation by EPA. *See* NMED Exh. 5 (Kuehn Direct) at 9:19 – 10:2.

II. Public Comment

38. Mr. Tamas-Parris gave public comment supporting WEG's position that the permits at issue are illegal, and that the Department's draft ozone precursor regulations will not be able to reduce methane pollution and other VOC emissions. *See* Tr. Vol. 1, 230:11 – 236:25.

39. Yang gave public comment regarding the impact of oil and gas development on indigenous communities, and supporting WEG's request that the Board reject the permits at issue. *See* Tr. Vol. 1, 237:9 – 242:20.

40. Ms. Khalsa gave public comment regarding the health impacts of ground level ozone and supporting WEG's appeals calling for rescission of the permits at issue. *See* Tr. Vol. 1, 243:1 – 245:15.

**FINDINGS OF FACT FOR
EIB NO. 20-21(A)**

III. The 3-Bear Facility

41. 3-Bear Delaware Operating – NM, LLC (“3-Bear”), owns and operates the 3 Bear Libby Gas Plant (“Libby Plant”) located approximately 16 miles southwest of Monument, in Lea County, New Mexico. The Libby Plant uses a cryogenic gas separation train to process field gas received from three surrounding compressor stations. The Plant extracts natural gas liquids from the field gas, resulting in pipeline quality natural gas that is referred to as “residue gas.” *See* 3-Bear Hearing Exhibit 1, Direct Testimony of Jeffry D. Bennett and Lori K. Marquez filed Aug. 3, 2020 (“Bennett/Marquez Direct”) at 1:6-11.

42. Pursuant to the Board’s regulations for construction permits at 20.2.72 NMAC, the Bureau issued New Source Review (“NSR”) Permit No. 7482 for construction of the Libby Plant on January 8, 2018. *See* 3-Bear Exh. 4.

43. On September 11, 2019, 3-Bear submitted an application to amend NSR Permit No. 7482; a revised application to amend was submitted in December 2019. *See* EIB 20-21(A) Administrative Record (“AR”) 00142-00388; 00401-00638.

44. On April 8, 2020, the Bureau issued NSR Permit 7482-M1, which is the subject of the appeal in EIB No. 20-21(A). *See* EIB 20-21(A) AR 00734-00784.

45. WildEarth Guardians (“WEG”) filed its Petition for a Hearing, appealing the 3-Bear Permit, on May 11, 2020.

IV. NSR Permit Requirements

46. The AQCA and the Board’s regulations at Title 20, Chapter 2 NMAC, set forth the standards for regulated air pollutants, and the requirements with which facilities that emit such pollutants must comply.

47. The AQCA provides that the Board shall require “a person intending to construct or modify any source, except as otherwise provided by regulation, to obtain a construction permit from the Department . . . prior to such construction or modification.” NMSA 1978, § 74-2-7(A)(1). Pursuant to this statutory directive, the Board adopted the Construction Permit regulations at 20.2.72 NMAC. *See* 20.2.72.3 NMAC.

48. The 3-Bear Permit at issue in EIB 20-21(A) is governed by the Board’s permitting regulations at 20.2.72 NMAC, which apply to new sources or modifications of existing sources.

49. EPA has approved the Board’s construction permitting regulations at 20.2.72 NMAC, and that program is part of New Mexico’s federally-approved State Implementation Plan (“SIP”). *See* 78 Fed. Reg. 15296 (March 11, 2013); Tr. Vol. 1 at 166:25 – 167:9.

A. NSR Permits under 20.2.72 NMAC

50. Section 20.2.72.200.A NMAC requires that permits must be obtained from the Department by certain categories of persons or sources, including the following:

- (1) Any person constructing a stationary source which has a potential emission rate greater than 10 pounds per hour or 25 tons per year of any regulated air contaminant for which there is a National or New Mexico Ambient Air Quality Standard; and
- (2) Any person modifying a stationary source when all of the pollutant emitting activities at the entire facility, either prior to or following the modification, emit a regulated air contaminant for which there is a National or New Mexico Ambient Air Quality Standard with a potential emission rate greater than 10 pounds per hour or 25 tons per year and the regulated air contaminant is emitted as a result of the modification.

51. Section 20.2.72.208 NMAC enumerates the bases for which the Department shall deny an application for a construction permit or permit modification, which include instances where the “construction, modification, or permit revision will cause or contribute to air

contaminant levels in excess of any National Ambient Air Quality Standard . . . unless the ambient air impact is offset by meeting” the requirements for sources in nonattainment areas, as specified in 20.2.79 NMAC or 20.2.72.216 NMAC. *See* 20.2.72.208.D NMAC.

52. The term “cause or contribute” in the Board’s regulations is based on language in the federal Clean Air Act’s Prevention of Significant Deterioration (“PSD”) provisions that prohibits construction of PSD major sources unless the owner or operator can demonstrate that “emissions from construction of such facility will not cause, or contribute to, air pollution in excess of any . . . [NAAQS].” 42 U.S.C. § 7475(a)(3).

53. PSD major sources are sources that emit more than 250 tons per year of any regulated pollutant. *See* 42 U.S.C. § 7479(1); 3-Bear Exh. 2, Rebuttal Testimony of Jeffry Bennett and Lori K. Marquez (“Bennett/Marquez Rebuttal”), at 2:30-34.

54. EPA has historically used pollutant-specific concentration levels known as “significant impact levels” (“SILs”) to identify the degree of air quality impact that is considered to “cause or contribute” to a violation of a NAAQS. 3-Bear Exh. 2 (Bennett/Marquez Rebuttal) at 2:36-38.

55. According to EPA, “proposed sources have met the requirement to demonstrate that they do not cause or contribute to a violation by showing that the ambient air quality impacts resulting from the proposed source’s emissions would be below these concentration levels.” WEG Exh. 12, EPA Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program (April 17, 2018) (“EPA SIL Guidance”), at p. 5.

56. Likewise, NMED’s Air Dispersion Modeling Guidelines (“NMED Modeling Guidelines”) at Section 2.4.1 define “Significance Level” as “thresholds below which the source is not considered to contribute to any predicted exceedance of air quality standards.....” *See* 3-

Bear Exh. 7.

57. EPA has established a SIL for ozone of 1.0 parts per billion (ppb). *See* WEG Exh. 12 at p. 15.

58. NMED's Modeling Guidelines adopt EPA's ozone significance level of 1.0 ppb. *See* NMED Modeling Guidelines, Section 2.6.5 Table 5E (citing to EPA's SIL Guidance).

a. Demonstrating compliance with NAAQS for criteria pollutants other than ozone

59. Pollutants that are emitted directly by a source – such as NO_x, SO₂, PM₁₀, PM_{2.5}, and lead – are known as “primary pollutants”. *See* NMED Exh. 1 (Mustafa Direct) at 6:13-14.

60. To demonstrate compliance with the NAAQS for primary pollutants, applicants for an NSR permit under 20.2.72 NMAC use air dispersion modeling analyses to predict what the concentrations of most criteria pollutants will be after the source is constructed or modified. Dispersion modeling for primary pollutants simulates dispersion of that pollutant in the air after it is emitted from the source. *See id.* at 4:9 – 5:13; 6:16-16.

61. In general, an EPA-approved regulatory model known as AERMOD is used to model air impacts of primary pollutants. The model requires various inputs, including the post-construction emissions of various criteria air pollutants such as carbon monoxide, nitrogen oxides, sulfur dioxide, and particulate matter. The model's output are the predicted pollutant concentrations, which are compared against the NAAQS to demonstrate compliance. *See id.*

b. Demonstrating compliance with NAAQS for ozone

62. Ozone is different from the other criteria pollutants in that it is not directly emitted from sources, but instead is primarily formed in the ambient air through chemical interactions between other precursor pollutants. Pollutants that are formed through chemical interactions in the ambient air, such as ozone, are known as “secondary pollutants.” *See* NMED Exh. 1 (Mustafa

Direct) at 6:11-16.

63. In contrast to dispersion modeling for primary pollutants, modeling for a secondary pollutant such as ozone must be capable of simulating chemistry in addition to dispersion. This is commonly done using photochemical models that simulate atmospheric chemistry as well as atmospheric mixing. *See id.* at 6:17-19.

64. The addition of chemistry adds substantial complexity to the model. While the impacts of a facility's emissions on primary pollutant concentrations are typically evaluated for a facility alone based on modeling that covers an area of a few hundred square miles, the impact of a facility's emissions on secondary pollutant concentrations must be evaluated in relation to emissions from other sources, since the precursors reacting to create secondary pollutants are often emitted from multiple sources and sectors. *See id.* at 6:20 – 7:2.

65. In addition to regulated facilities, ozone precursors are emitted from numerous other anthropogenic and natural sources, as well as being transported from surrounding states and countries. Precursors can travel hundreds of miles in the atmosphere before reacting to form ozone. This makes it necessary to have not only a detailed understanding of the emissions from regulated facilities in an area, but also emissions from sources hundreds of miles away. *See id.* at 7:1-7

66. The potential complexity of photochemical modeling has led several organizations, including EPA and the Western Regional Air Partnership (“WRAP”), to develop modeling platforms that contain most of the information necessary for photochemical grid modeling exercises. Despite the development of these platforms, photochemical modeling exercises are still highly complex, and are mostly conducted by private specialists under contract with state and local air quality agencies. These specialized studies are far more costly than dispersion modeling; for instance, the photochemical modeling associated with the Department's Ozone Attainment Initiative is being performed by highly specialized contractors at a cost of over three-hundred

thousand dollars. *See id.* at 7:8-16; 3-Bear Exh. 7 (NMED Modeling Guidelines) at p. 24.

67. EPA has developed modeling guidance for assessing single-source impacts on ambient ozone concentrations from major PSD sources (sources that emit 250 tpy of any regulated air pollutant). *See* NMED Exh. 1 (Mustafa Direct) at 8:23.

68. EPA's PSD program does not require modeling for new or modified minor sources. *See* NMED Exh. 1 (Mustafa Direct) at 8:17-20; 10:9-11; NMED Exh. 11, (Kuehn Rebuttal) at 4:21 – 5:17;; Tr Vol. II, 379:1-14; 436:22 – 437:23.

69. The Board's regulations and NMED's Modeling Guidelines also do not require analysis of ozone impacts for minor sources. *See* 3-Bear Exh. 3 (NMED Modeling Guidelines), at p. 24; Tr. Vol. I, 179:4-16.

70. This approach is consistent with the extensive modeling developed by EPA for its PSD major source guidance, because application of EPA's modeling indicates that minor sources, by definition, do not cause impacts above the SIL for ozone. *See* Tr. Vol. 1, 161:8 – 162:14; Tr Vol. II, 379:1-14; 436:22 – 437:23.

71. The EPA modeling guidance for PSD major sources uses a two-tiered demonstration approach to address single-source impacts on ambient ozone. This type of demonstration is included in the NMED Modeling Guidelines and forms the basis for NMED's modeling requirements for major PSD sources. *See* NMED Exh. 1 (Mustafa Direct) at 8:21 – 9:2.

72. Tier I of the demonstration is a screening tool that uses Modeled Emission Rates for Precursors ("MERPs"). This tool is based on extensive modeling using hypothetical sources around the country to account for the sensitivity of ozone formation chemistry to local atmospheric conditions and concentrations of atmospheric species. *See id.* at 9:2-3.; Tr. Vol II, 379:23 – 380:17.

73. MERPS are applied to facility emissions of NO_x and VOCs as multiplicative factors to estimate a facility's ozone impacts. The multiplicative factors for the three "hypothetical

sources” closest to the facilities at issue in these appeals require that over 250 tons per year of NO_x or VOCs be emitted from a facility before the ozone impacts from the facility will be above the SIL for ozone. *See* NMED Exh 11 (Kuehn Rebuttal) at 5:4-11.

74. Based on application of the MERPs, the air impacts of any minor source – i.e. a source that emits less than 250 tpy per year of ozone precursors – will be below the SIL and are therefore not considered to cause or contribute to ozone levels in violation of the NAAQS. *See id.* at 5:11-14; Tr. Vol. I, 163:11 – 164:6.

75. All the sources at issue in these consolidated appeals are minor sources for purposes of the PSD program. *See id.* at 5:11-12.

V. Objections Raised by WEG

76. WEG’s objection to approval of the 3-Bear Permit is based on the Board’s regulations at 20.2.72.208.D NMAC, which provides that the Department shall deny any application for a permit if “[t]he construction, modification, or permit revision will cause or contribute to air contaminant levels in excess of any National Ambient Air Quality Standard . . . unless the ambient air impact is offset ” *See* EIB 20-21(A) Petition at 4.

77. WEG asserted that because air monitors in Lea and Eddy counties have been registering exceedances of the ozone NAAQS, issuance of the 3-Bear Permit would “presumptively contribute to exceedances of the ozone NAAQS,” rendering the permit action “unlawful and in violation of 20.2.72.208.D NMAC”. *Id.*

78. WEG further stated that NMED “conducted no air quality modeling or other technical analysis of the impact of [the proposed emissions in the 3-Bear Permit application] on current ozone levels and failed to provide any support for its conclusory determination that these additional ozone precursors would not ‘contribute’ to exceedances of the NAAQS,” and therefore “NMED’s conclusion that the additional emissions will not ‘cause or contribute’ to exceedances

of the ozone NAAQS was arbitrary and capricious, and NMED's issuance of the [3-Bear Permit] was unlawful." *Id.* at 4-5.

79. As a remedy, WEG requested that the Board rescind the 3-Bear Permit, and prohibit NMED from issuing a permit for the 3-Bear Facility "until NMED develops and implements a formal plan, including regulations, to reduce ozone precursors in the area and further demonstrates that additional emissions of ozone precursors from any new permit issued for the [3-Bear Facility] will not 'cause or contribute' to violations of the ozone NAAQS." *Id.* at 5.

80. WEG's technical witness testified regarding monitoring data from the three monitors in Eddy and Lea counties between 2015 and 2019 that shows 2017-2019 design values above the ozone NAAQS. *See* 3-Bear Petition at p. 3-4.

81. The Department did not dispute that design values based on data from air quality monitors in Hobbs and Carlsbad, New Mexico, in 2017, 2018, and 2019 show levels exceeding the 2015 ozone NAAQS. *See* EIB 20-21(A), New Mexico Environment Department's Answer at p. 2, ¶ 3.c. (filed 06/15/2020); NMED Exh. 5 (Kuehn Direct) at 6:7-10.

82. WEG's witness, Dr. Ranaji (Ron) Sahu, testified that because the monitors in the counties where the permitted facilities at issue in these consolidated appeals are located are registering design values above the ozone NAAQS in recent years, and because the permitted facilities emit ozone precursor pollutants, those facilities necessarily contribute to exceedances of the ozone NAAQS. *See* Tr. Vol. 1 at 68:7-13.

83. Witnesses for NMED and 3-Bear testified that long-standing guidance from both EPA and NMED provides that the phrase "cause or contribute" in the CAA and its corresponding federal and state regulations is interpreted to include a significance threshold that must be met before a source's impacts on ambient air quality will be considered to "cause or contribute" to a NAAQS violation. *See* Tr. Vol. 1 at 166:25 – 167:9; Tr. Vol. II at 372:1 – 376:13.

84. Witnesses for 3-Bear provided testimony demonstrating that Colorado, Oklahoma, and Texas interpret the term “cause or contribute” as requiring a significance threshold, in the same manner as NMED and EPA. *See* 3-Bear Exh. 2 (Bennett/Marquez Rebuttal) at 4:25 – 7:10; Tr. Vol. II, 340:10 – 342:18.

85. Dr. Sahu was not able to point to any other jurisdiction in the U.S. that applies the “cause or contribute” standard without using a significance threshold. *See* Tr. Vol. 1 at 103:1 – 104:2.

86. Dr. Sahu further testified that EPA’s guidance for PSD major sources required that NMED make a specific determination as to whether the 3-Bear Facility would contribute to ozone concentrations above the NAAQS, and that NMED should have required a Tier 2 case-by-case analysis of the facility’s impacts on ozone concentrations under the PSD guidance in order to make such a determination. *See* WEG Exh. 11, Rebuttal Expert Report by Dr. Ranajit (Ron) Sahu, Consultant, In Support of Petition in EIB No. 20-33(A) and 20-21(A) (“Sahu Rebuttal”) at p. 6.

87. Witnesses for the Department and 3-Bear testified that the PSD Guidance applies only to major sources, and the 3-Bear Facility is a minor source for purposes of the PSD regulations. Tr. Vol. I, 160:21 – 161:7; 163:19 – 164:6.

88. NMED’s and 3-Bear’s witnesses testified that, in the context of an individual minor source permit application such as the one for the Libby Plant, the Board’s Regulations and NMED’s Modeling Guidelines do not require the applicant to demonstrate or NMED to determine that the source will not cause or contribute to ozone levels. They pointed out that no such specific determination is required is because, under the Tier 1 analysis in EPA’s PSD Guidance, impacts from minor sources will always be below the SIL for ozone, and therefore minor sources, by definition, are not considered to contribute to ozone concentrations above the NAAQS. *See* Tr. Vol. 1, 161:8 – 162:14; Tr. Vol. 1 at 166:25 – 167:9; *See* Tr. Vol. 1, 207:6 – 208:8; Tr. Vol. II at

372:1 – 376:13; Tr Vol. II, 379:1-14; 436:22 – 437:23.

89. 20.2.79 NMAC governs permitting in nonattainment areas. Subsection 20.2.79.7.AA of those rules defines “Nonattainment Area” as follows:

for any air pollutant an area which is shown by monitored data or which is calculated by air quality modeling (or other methods determined by the [EPA] administrator to be reliable) to exceed any national ambient air quality standard for such pollutant. Such term includes any area identified under Subparagraphs (A) through (C) of Section 107(d)(1) of the federal Clean Air Act.

90. WEG argues that this definition includes, but is not limited to, areas formally designated as nonattainment by EPA under the CAA, and because the monitors in Lea and Eddy Counties are registering exceedances of the ozone NAAQS, the Department must consider those counties to be “nonattainment areas” for ozone, even though EPA has not designated them as such. *See* WEG opening statement, Tr. Vol. 1, 29:8-23.

91. Ms. Kuehn testified that the AQCA expressly addresses how the Board must act with respect to counties in New Mexico, such as Lea and Eddy, that are currently designated as EPA as attainment areas for the ozone NAAQS, but which are registering design values close to or in excess of the standard. Specifically, she pointed to the provisions of NMSA 1978, § 74-2-5.3, which require the Board to take action to control ozone precursor emissions from sources within its jurisdiction in counties that have monitors registering design values over 95% of the NAAQS. *See* NMED Exh. 5 (Kuehn Direct) at 7:10 – 9:11.

92. Ms. Kuehn testified that action is currently being taken as required by Section 74-2-5.3 of the AQCA to address the seven counties under the Board’s jurisdiction that are currently registering design values over 95% of the NAAQS. Specifically, the Department has undertaken its Ozone Attainment Initiative to develop a series of regulations to bring before the Board, as well as other measures to mitigate ozone precursor emissions from contributing sources. *See id.* at 7:10 – 9:11.

93. Ms. Kuehn explained that a fundamental aspect of the OAI is determining exactly what sources are contributing to ozone concentrations in the State. To this end, the Department has contracted with the Western States Air Resources Council and Ramboll to conduct photochemical grid modeling for ozone to determine which sectors within the Board's regulatory jurisdiction are contributing to ozone concentration and to support proposed regulations that will target ozone precursor emissions from those sectors. The modeling will identify anthropogenic, non-anthropogenic, and interstate and international contributions to monitored ozone concentrations in the counties of concern. The results of this modeling are expected in late 2020. *See id.*; Tr. Vol. 1 at 200:13-20.

94. Witnesses for NMED, 3-Bear, and XTO testified to the complexities, both procedural and substantive, of a nonattainment designation, and the lack of any authorization, guiding principles in the AQCA or Board's regulations, or resources for the Department to conduct such a process. They highlighted the uncertainty and confusion that would arise if the definition of "nonattainment area" were interpreted to include counties with monitors that were registering design values above the NAAQS, as well as the unworkability as a practical matter of such an interpretation in terms of administering the Board's construction permitting program regulations. *See, e.g.* NMED Exh. 11 (Kuehn Rebuttal) at 3:13 – 4:7; Parmley Rebuttal at 5:17 – 8:15; 3-Bear Exh. 2 (Bennett/Marquez Rebuttal) at 12:22 – 14:11; Tr. Vol. 2 at 316:20 – 317:16.

CONCLUSIONS OF LAW FOR EIB 20-21(A)

VI. Standard of Decision

95. In a permit appeal hearings before the Board, "the petitioner has the burden of going forward with the evidence and of proving by a preponderance of the evidence the facts relied upon to justify the relief sought in the petition." 20.1.2.302 NMAC.

96. Following the establishment of a prima facie case by the petitioner, "any person

opposed to the relief sought in the petition has the burden of going forward with any adverse evidence and showing why the relief should not be granted.” *Id.*

97. On appeal, board decisions will be set aside where they are “(1) arbitrary, capricious, or an abuse of discretion; (2) not supported by substantial evidence in the record; or (3) otherwise not in accordance with law.” NMSA 1978 74-2-9(C)

VII. The 3-Bear Permit

98. The Board’s regulations at 20.2.72.208.D NMAC require the Department to deny a permit application under part 20.2.72 if “[t]he construction, modification, or permit revision will cause or contribute to air contaminant levels in excess of any [NAAQS] . . . unless the ambient air impact is offset by meeting the requirements of 20.2.79 NMAC or 20.2.72.216 NMAC.”

99. Where the Board’s regulations have been approved by EPA as part of the New Mexico State Implementation Plan, and where the language in the Board’s regulations mirrors language from the CAA, it is appropriate for NMED to interpret such language in the same manner as it is interpreted by EPA.

100. Pursuant to long-standing EPA and NMED guidance, for a source to be considered to “cause or contribute” to ozone concentrations in excess of a NAAQS, its impacts on ozone concentrations must be above the “significant impact level” as established by EPA.

101. Sources that emit below 250 tpy of ozone precursor are “minor sources” for purposes of the Board’s PSD permitting regulations.

102. Pursuant to EPA guidance, NMED guidance, and the Board’s permitting regulations at 20.2.72 and 20.2.74 NMAC, a permit applicant for a minor source is not required to make an individual demonstration of its impacts on ambient ozone concentrations.

103. Application of EPA modeling guidance establishes that sources in Lea and Eddy County whose emissions of ozone precursor pollutants are below 250 tpy will be below the

significant impact level for ozone.

104. Because their impacts are below the SIL for ozone, minor sources by definition do not “cause or contribute to” ozone concentrations in excess of the NAAQS.

105. The Department does not have authority or discretion to deny a permit or require offsets for an individual new or modified minor source in a designated attainment area on the basis that the facility will “cause or contribute” to ozone levels above the NAAQS.

106. WEG failed to establish by a preponderance of the evidence that the Department’s determination that the modifications to the Libby Plant proposed in the 3-Bear Permit application would not cause or contribute to concentrations in excess of a NAAQS was arbitrary, capricious, or otherwise contrary to law.

107. WEG’s technical witness did not offer any testimony establishing that the Department should have disregarded EPA’s and NMED’s long-standing historical interpretation of the phrase “cause or contribute” to find that a minor source that emits any amount of ozone precursors in a county designated as attainment but with monitors registering exceedances of the ozone NAAQS will necessarily contribute to ozone concentrations above the NAAQS.

108. WEG has not identified any other jurisdiction in the United States that interprets the phrase “cause or contribute” in the manner advocated by WEG.

109. At least three other similarly-situated jurisdictions take the same approach to permitting minor sources under the CAA as the Department did with respect to 3-Bear’s Libby Plant.

110. The Board finds that in total WEG has not met the requirement in 20.1.2.302 of proving by a preponderance of the evidence that the Department issued Air Quality Permit No. 7482-M1 in violation of the AQCA or Board regulations. Accordingly, it is the Board’s decision that the relief sought in WEG’s petition as to the 3-Bear Permit be denied.

**FINDINGS OF FACT
FOR EIB NO. 20-33(A)**

VIII. Registrations 8729, 8730, and 8733 under GCP For Oil and Gas Facilities

111. XTO Energy Inc. (“XTO”) owns and operates the Big Eddy Unit DI 38 Tank Battery and the Corral Canyon 23 Tank Battery, both of which are located in Eddy County, New Mexico.

112. On February 24, 2020, XTO submitted an application to register its proposed Corral Canyon 23 Tank Battery under the GCP Oil & Gas. *See* EIB 20-33(A) AR 0008-0215.

113. On March 27, 2020, the Department approved registration of the XTO Corral Canyon 23 Tank Battery under Air Quality General Permit GCP-O&G No. 8729. *See* EIB 20-33(A) AR 0220-0232.

114. On February 18, 2020, XTO submitted an application to register its proposed Big Eddy Unit under the GCP Oil & Gas. *See* EIB 20-33(A) AR 0240-0445.

115. On March 27, 2020, the Department approved registration of the XTO Big Eddy Unit Tank Battery under Air Quality General Permit GCP-O&G No. 8730. *See* EIB 20-33(A) AR 0450-0461.

116. Spur Energy Partners LLC (“Spur”) owns and operates the Dorami 2H, 4H and 9H Federal Tank Battery, located in Eddy County, New Mexico.

117. On February 10, 2020, Spur submitted an application to register its proposed Dorami 2H, 4H and 9H Federal Tank Battery under the GCP O&G. *See* EIB 20-33(A) AR 0500-0597.

118. On March 23, 2020, the Department approved registration of the Spur Dorami 2H, 4H and 9H Federal Tank Battery under Air Quality General Permit GCP O&G No. 8733. *See* EIB 20-33(A) AR 0660-0671.

IX. The GCP for Oil & Gas Facilities

119. The AQCA provides that the Board shall require “a person intending to construct or modify any source, except as otherwise provided by regulation, to obtain a construction permit from the Department . . . prior to such construction or modification.” NMSA 1978, § 74-2-7(A)(1). Pursuant to this statutory directive, the Board adopted the Construction Permit regulations at 20.2.72 NMAC. *See* 20.2.72.3 NMAC.

120. The Registrations under the GCP at issue in EIB 20-33(A) are governed by the Board’s permitting regulations at 20.2.72 NMAC, which apply to new sources or modifications of existing sources.

121. EPA has approved the Board’s construction permitting regulations at 20.2.72 NMAC, and that program is part of New Mexico’s federally-approved State Implementation Plan (“SIP”). *See* 78 Fed. Reg. 15296 (March 11, 2013); Tr. Vol. 1 at 166:25 – 167:9.

122. Section 20.2.72.220 NMAC allows the Department to issue one or more general construction permits (“GCP”) that cover numerous similar sources. *See* 20.2.72.220.A(1) NMAC. Prior to issuing a GCP, the Department must give notice of the draft GCP under Subsections A and B of 20.2.72.206 NMAC, and hold a public hearing with opportunity for public participation under Subsection C of 20.2.72.206 NMAC. *See id.* Sources registered under a GCP “shall be generally homogeneous in terms of operations, processes and emissions, subject to the same or substantially similar requirements, and not subject to case-by-case standards or requirements.” *Id.*

123. The GCP O&G was issued under 20.2.72.220 NMAC, and was developed to replace two previously issued GCPs for oil and gas facilities: the GCP-1 (Level One Oil and Gas Installations) and the GCP-4 (Combustion Sources and Related Equipment). The GCP O&G addressed a broader range of equipment than was covered by the previous GCPs. *See* Spur Exh. 3, Direct Testimony and Exhibits of Adam Erenstein, Trinity Consultants (“Erenstein Direct”), at p.

2:21-22, 3:15-17.

124. Prior to issuing the GCP O&G, the Department undertook a lengthy stakeholder and public outreach and comment process. The Department released the initial draft of the GCP O&G for public comment in May of 2017, and released a revised draft in December of 2017 which incorporated changes based on revised modeling analyses and comments received. In January of 2018, the Department published a completeness determination for the draft permit, which initiated a formal 30-day comment period, and held open houses on the proposed permit. A hearing on the permit was held before a Department hearing officer in February of 2018. The final GCP O&G was issued on April 27, 2018. *See* Spur Exh. 3 (Erenstein Direct) at 3:22 – 4:1.

125. Throughout the development and hearing process on the GCP O&G, the Department elicited input regarding the proposed permit conditions, and the assumptions and modeling that formed the basis for those conditions. *See id.* at 4:2-7.

126. In issuing the GCP O&G, the Department determined that if facilities are operated in accordance with the provisions of the GCP O&G, they will not cause or contribute to any concentrations above air quality standards and PSD increments. *See* GCP O&G, B100A.

127. Only minor sources are eligible to register for the GCP O&G. *See* GCP O&G, A106A, Table 106.

128. The AQCA defines “source” as “a structure, building, equipment, facility, installation or operation that emits or may emit an air contaminant.” NMSA 1978, § 74-2-2(D).

129. The Board’s permitting regulations at 20.2.72.220.EE NMAC define “source” as “any building, structure, equipment, facility, installation (including temporary installations), operation or portable stationary source which emits or may emit any air contaminant.”

X. Objections Raised by WEG

130. Dr. Sahu testified that the “collective impact of the three challenged facilities

registered under the GCP O&G assuming the maximum allowable emissions of 95 tons per year each for NO_x and VOCs is 1.82 ppb,” implying that, when considered collectively, the impact of GCP registrations is above the ozone SIL. WEG Exh. 11 (Sahu Rebuttal), at p. 6.

131. Dr. Sahu was unable to identify any provisions in the AQCA or the Board’s permitting regulations that would allow the Department to collectively consider multiple separate GCP registration applications for different facilities in different locations and under different ownership with respect to potential emissions for purposes of determining emissions levels, source classifications, or impacts on ozone concentrations. *See* Tr. Vol. 1 at 80:2 – 81:2.

132. WEG’s objection in the GCP Petition is based on Sections A103 and A100H(6) of the GCP O&G. Section A103 states that “the permittee shall comply with all applicable sections of the requirements listed in Table 103 [of the GCP O&G].” Table 103 lists “40 CFR 50 National Ambient Air Quality Standards” as a requirement, and the 2015 ozone NAAQS is set forth at 40 C.F.R. § 50.19(a). WEG asserts that because the monitors in Eddy and Lea Counties have been registering exceedances of the ozone NAAQS, there is “no way for the permittees to comply with the ozone NAAQS, as required for registration under the [GCP O&G].” EIB 20-33(A) Petition at 3.

133. Section B100 of the GCP Oil & Gas states that “The Department has determined that all facilities registered under and operating in accordance with this permit will meet all applicable requirements under [the CAA, the AQCA, and the Board’s regulations at Title 20, Chapter 2], and will not cause or contribute to air contaminant levels in excess of any national or New Mexico ambient air quality standard.” Spur Exh. 5 (GCP Oil & Gas) at p. 31.

134. WEG also points to Section A100H(6) of the GCP O&G, which states that the Department shall deny a registration under the permit if “[t]he Facility is located in a nonattainment area [defined by 20.2.72.216 and 20.2.79 NMAC]” *Id.* at p. 4-5.

135. 20.2.79 NMAC governs permitting in nonattainment areas. Subsection 20.2.79.7.AA of those rules defines “Nonattainment Area” as follows:

for any air pollutant an area which is shown by monitored data or which is calculated by air quality modeling (or other methods determined by the [EPA] administrator to be reliable) to exceed any national ambient air quality standard for such pollutant. Such term includes any area identified under Subparagraphs (A) through (C) of Section 107(d)(1) of the federal Clean Air Act.

136. WEG argues that this definition includes, but is not limited to, areas formally designated as nonattainment by EPA under the CAA, and because the monitors in Lea and Eddy Counties are registering exceedances of the ozone NAAQS, the Department must consider those counties to be “nonattainment areas” for ozone, even though EPA has not designated them as such. *See* WEG opening statement, Tr. Vol. 1, 29:8-23.

137. Accordingly, WEG claims that “NMED’s decision to approve the [GCP Registrations] – and thereby authorize additional emissions of ozone precursor pollutants in an area already exceeding the ozone NAAQS – was unlawful, arbitrary, and capricious.” GCP Petition at 3.

138. As a remedy, WEG requests that the Board rescind the GCP Registrations, and prohibit NMED from approving any new registrations under the GCP O&G in Eddy and Lea Counties “until NMED develops and implements a formal plan, including regulations, to reduce ozone precursors in the area and further demonstrates that additional emissions of ozone precursors from any new permit registrations will be able to fully comply with the ozone NAAQS.” *Id.* at 6.

139. Dr. Sahu testified that because the monitors in Lea and Eddy Counties are registering design values in excess of the 2015 ozone NAAQS, those counties are “actual nonattainment areas” to which permitting requirements for nonattainment areas must apply, positing that there can be a nonattainment area even in the absence of a nonattainment designation by EPA. *See* WEG Exh. 1, Expert Report by Dr. Ranajit (Ron) Sahu, Consultant, In Support of Petition in

EIB No. 20-33(A) and 20-21(A) (“Sahu Direct”) at p. 2.

140. Witnesses for the Department and XTO contradicted Dr. Sahu’s testimony, explaining that there cannot be a “nonattainment area” in the absence of a formal designation by EPA. *See* NMED Exh. 11 (Kuehn Rebuttal) at 1:7 – 4:7; Direct Testimony of Randy Parmley, P.E., On Behalf of XTO Energy Inc., In Support of General Construction Permit, Oil and Gas Registration Nos. 8729 and 8730 (“Parmley Direct”), generally; Rebuttal Testimony of Randy Parmley, P.E., On Behalf of XTO Energy Inc., In Support of General Construction Permit, Oil and Gas Registration Nos. 8729 and 8730, generally.

141. Ms. Kuehn explained that, while monitoring data are a critical piece of a nonattainment designation, a county does not automatically become a “nonattainment area” when a monitor in that county registers design values above the NAAQS. *See* NMED Exh. 11 (Kuehn Rebuttal) at 2:10-12.

142. Ms. Kuehn testified that nothing in the CAA, the AQCA, or their corresponding regulations gives the Board or the Department the authority to designate an area of the state as a nonattainment area; it is solely within EPA’s authority to make such designations. Nor do the AQCA or the Board’s regulations set forth a process by which the Board or the Department could designate a given area as nonattainment. *See id.* at 3:4-18.

143. Ms. Kuehn testified that she was the primary draftsman for the GCP Oil & Gas, and that the intent of the language in Section A100H(6) was intended to preclude registration under of facilities in designated nonattainment areas. Tr. Vol. 1, 251:1-18.

144. Ms. Kuehn testified that the AQCA expressly addresses how the Board must act with respect to counties in New Mexico, such as Lea and Eddy, that are currently designated as EPA as attainment areas for the ozone NAAQS, but which are registering design values close to or in excess of the standard. Specifically, she pointed to the provisions of NMSA 1978, § 74-2-

5.3, which require the Board to take action to control ozone precursor emissions from sources within its jurisdiction in counties that have monitors registering design values over 95% of the NAAQS. *See* NMED Exh. 5 (Kuehn Direct) at 7:10 – 9:11.

145. Ms. Kuehn testified that action is currently being taken as required by Section 74-2-5.3 of the AQCA to address the seven counties under the Board’s jurisdiction that are currently registering design values over 95% of the NAAQS. Specifically, the Department has undertaken its Ozone Attainment Initiative to develop a series of regulations to bring before the Board, as well as other measures to mitigate ozone precursor emissions from contributing sources. *See id.* at 7:10 – 9:11.

146. Ms. Kuehn explained that a fundamental aspect of the OAI is determining exactly what sources are contributing to ozone concentrations in the State. To this end, the Department has contracted with the Western States Air Resources Council and Ramboll to conduct photochemical grid modeling for ozone to determine which sectors within the Board’s regulatory jurisdiction are contributing to ozone concentration and to support proposed regulations that will target ozone precursor emissions from those sectors. The modeling will identify anthropogenic, non-anthropogenic, and interstate and international contributions to monitored ozone concentrations in the counties of concern. The results of this modeling are expected in late 2020. *See id.*; Tr. Vol. 1 at 200:13-20.

147. Witnesses for NMED, 3-Bear, and XTO testified to the complexities, both procedural and substantive, of a nonattainment designation, and the lack of any authorization, guiding principles in the AQCA or Board’s regulations, or resources for the Department to conduct such a process. They highlighted the uncertainty and confusion that would arise if the definition of “nonattainment area” were interpreted to include counties with monitors that were registering design values above the NAAQS, as well as the unworkability as a practical matter of such an interpretation in terms of

administering the Board's construction permitting program regulations. *See, e.g.* NMED Exh. 11 (Kuehn Rebuttal) at 3:13 – 4:7; Parmley Rebuttal at 5:17 – 8:15; 3-Bear Exh. 2 (Bennett/Marquez Rebuttal) at 12:22 – 14:11; Tr. Vol. 2 at 316:20 – 317:16.

CONCLUSIONS OF LAW FOR EIB 20-33(A)

XI. Standard of Decision

148. In a permit appeal hearing before the Board, “the petitioner has the burden of going forward with the evidence and of proving by a preponderance of the evidence the facts relied upon to justify the relief sought in the petition.” 20.1.2.302 NMAC.

149. Following the establishment of a prima facie case by the petitioner, “any person opposed to the relief sought in the petition has the burden of going forward with any adverse evidence and showing why the relief should not be granted.” *Id.*

150. The Board's regulations at 20.2.72.208.D NMAC require the Department to deny a permit application under part 20.2.72 if “[t]he construction, modification, or permit revision will cause or contribute to air contaminant levels in excess of any [NAAQS] . . . unless the ambient air impact is offset by meeting the requirements of 20.2.79 NMAC or 20.2.72.216 NMAC.”

151. Where the Board's regulations have been approved by EPA as part of the New Mexico State Implementation Plan, and where the language in the Board's regulations mirrors language from the CAA, it is appropriate for NMED to interpret such language in the same manner as it is interpreted by EPA.

152. On appeal, board decisions will be set aside where they are “(1) arbitrary, capricious, or an abuse of discretion; (2) not supported by substantial evidence in the record; or (3) otherwise not in accordance with law.” NMSA 1978 74-2-9(C)

XII. The GCP Registrations

153. Only minor sources can register for the GCP Oil & Gas.

154. Under the definitions set forth in the CAA and the AQCA, a “Nonattainment Area” means an area designated by EPA as such pursuant to Section 7407(d) of the CAA.

155. It is within EPA’s sole authority to identify the boundaries of an area and designate the attainment status of that area with respect to any NAAQS.

156. The Department cannot consider a county in the State to be a “nonattainment area” solely because data from a monitor in that county show design values above the NAAQS at a given moment in time.

157. The Board’s regulations do not provide a process by which the Department or the Board could designate a nonattainment area.

158. To the extent that the definition of “nonattainment area” in the Board’s regulations at 20.2.72.7.T NMAC can be regarded as inconsistent with the language of the definition of that term in Section 74-2-2(N) of the AQCA, it is the statutory definition that takes precedence.

159. The Department’s longstanding interpretation of the definition of “nonattainment area” in the Board’s regulations at 20.2.72.7.T NMAC as meaning only an area that has been formally designated as such by EPA is reasonable, and is required by the definition of “nonattainment area” in the AQCA.

160. Lea and Eddy Counties, being currently designated by EPA as attainment for the 2015 ozone NAAQS, do not meet the definition of “nonattainment areas” under the CAA or the AQCA.

161. Where a company seeks to register a source under the GCP O&G and the source is

located in an area designated by EPA as in attainment of the ozone NAAQS, the Department does not have authority to deny the registration on the basis that the proposed source is located in a nonattainment area for the ozone NAAQS.

162. WEG failed to establish by a preponderance of the evidence that the Department's approval of the GCP Registrations was arbitrary, capricious, or otherwise contrary to law.

163. WEG's technical witness did not offer any testimony establishing that the Department should have disregarded the definition of "nonattainment area" in the CAA and the AQCA and the long-standing interpretation of the Board's regulations at 20.2.72.7(T) NMAC to reject an application for registration under the GCP O&G for a source located in a county designated by EPA as attainment but with monitors registering exceedances of the ozone NAAQS on the basis that the source is located in a nonattainment area and is not in compliance with the NAAQS.

164. WEG has not identified any other jurisdiction in the United States that interprets the term "nonattainment area" in the manner advocated by WEG.

165. The testimony of witnesses for the Department and XTO established that WEG's interpretation of "nonattainment area" would be unworkable, and would result in serious disruption to the Department's permitting program and significant uncertainty for regulated entities seeking permits for new or modified facility, and would call into question the status of permits for existing sources.

166. There are no provisions in the AQCA or the Board's regulations under which the Department could consider multiple separate permit applications for different facilities in different locations and under different ownership in the aggregate with respect to potential emissions for purposes of determining emissions levels, "major" or "minor" source classifications, or impacts

on ozone concentrations.

167. Section 74-2-5.3 of the AQCA expressly provides for how the Board is required to address counties in the State that have monitors registering ozone levels close to or above the ozone NAAQS.

168. The OAI and the other programs the Department's witnesses discussed in their testimony are the proper mechanisms by which the Department and Board can address the exceedances of the NAAQS in Lea and Eddy Counties as required under the AQCA.

169. The Board finds that in total WEG has not met the requirement in 20.1.2.302 of proving by a preponderance of the evidence that the Department issued Registrations 8729, 8730, and 8733 under the GCP for Oil and Gas Facilities in violation of the AQCA or Board regulations. Accordingly, it is the Board's decision that the relief sought in WEG's petition as to the GCP Registrations be denied.

ORDER BASED ON FINDINGS AND CONCLUSIONS

Based on the foregoing findings and conclusions it is ORDERED that the requests for relief in the Petition for Hearing in EIB 20-21(A) and the Petition for Hearing in EIB 20-33(A) be DENIED.

STATEMENT AS TO AVAILABILITY OF JUDICIAL REVIEW

Judicial review of this Final Order shall be as provided by law. 20.1.2.404 NMAC. The filing of an appeal does not stay the Final Order, unless otherwise ordered by the board or a court. *Id.* Any person adversely affected by an administrative action taken by the environmental improvement board, the local board, the secretary or the director may appeal to the court of appeals. NMSA 1978 § 74-2-9. All appeals shall be upon the record made at the hearing and shall be taken to the court of appeals within thirty days following the date of the action. *Id.*

IT IS SO ORDERED.



Phoebe Suina, Board Chair
New Mexico Environmental
Improvement Board

01-22-2021
Date

Appendix D

Rebuttal Testimony of Greg Jones

1 regarding pig launching and receiving (20.2.50.121). The Group adopts NMOGA's proposed
2 language on this topic, with certain revisions. The purpose of my testimony is to explain the
3 Group's concerns with certain provisions in NMED's proposed ozone precursor rules that would
4 negatively impact their businesses, water conservation efforts, and the broader environment, and to
5 propose reasonable alternatives that will satisfy the purpose of the proposed rules

6
7 **Q: DO YOU OPPOSE NMED'S PROPOSED OZONE PRECURSOR RULES?**

8 A: I support many provisions in NMED's proposed rules but am concerned that broadly
9 applying the requirements to remote pig launchers and receivers will make it difficult or impossible
10 for some facilities to comply. I take exception to NMED's proposed inspection frequency and
11 methods and propose revised rule language to preserve flexibility to operate pig launchers and
12 receivers appropriately based on site-specific conditions. In my direct testimony I addressed the
13 Group's concerns with the proposed rules relating to (i) controlling emissions at remote locations
14 and (ii) leak inspections. This rebuttal testimony will address support for NMOGA's direct
15 testimony as well as additional concerns with these provisions of the proposed rule.

16
17 **Q: PLEASE SUMMARIZE YOUR CONCERNS WITH THE PROPOSED OZONE**
18 **PRECURSOR RULES.**

19 A: The Group is concerned the proposed rules do not take into consideration the technical and
20 operational limitations on capturing, reducing, and controlling emissions from remote pig launchers
21 and receivers. The Group is also concerned that the proposed rules will apply to small sources of
22 emissions and will not achieve appreciable emission reductions. When applied to these types of
23 facilities, the provisions of the proposed rule impose requirements that are unduly burdensome,
24 prohibitively costly, and/or technically infeasible.

25 **II. PIG LAUNCHING AND RECEIVING**

26
27 **Q: DO YOU HAVE CONCERNS ABOUT 20.2.50.121 NMAC AS PROPOSED?**

28 A: Yes.

1 **Q: PLEASE SUMMARIZE YOUR CONCERNS WITH 20.2.50.121 NMAC.**

2 A: The Group supports NMED's proposal to control emissions from pig launchers and
3 receivers with a potential to emit ("PTE") greater than or equal to one ton per year ("tpy") located at
4 certain oil and gas facilities. However, the requirements should apply only if the launcher or
5 receiver shares common ownership or control with the larger facility. Pig launchers and receivers
6 that are outside the facility's property boundary or lack common ownership or control do not have
7 access to the facility's emission control devices and cannot reasonably comply with the proposed
8 standards due to technical, operational, safety, and space constraints. Where emission control
9 devices can be utilized, I am concerned that the 98% VOC capture and reduction requirement
10 cannot be achieved. NMED's proposed requirement to inspect each launcher and receiver
11 immediately before and after the pigging operation could demand very frequent inspections and
12 would cause additional vehicle emissions, limit the number of pigging events a crew could conduct
13 each day, and require operators to acquire dedicated optical gas imaging cameras. I disagree with
14 NMED's conclusion that controlling emissions from remote pig launchers and receivers would be
15 cost effective.

18 **Q: HAVE YOU PREPARED SPECIFIC REVISIONS TO THE RULE THAT**
19 **IMPLEMENT WHAT YOU JUST DESCRIBED?**

20 A: Yes. The Group proposes revisions to the applicability provisions, emission standards, and
21 monitoring requirements of 20.2.50.121 that will address our concerns. Our proposed revisions are
22 shown in the redline below.

24 **20.2.50.121 PIG LAUNCHING AND RECEIVING:**

25 A. Applicability: An individual pipeline pig launching and receiving operations with a
26 PTE greater than or equal to one tpy VOC located within ~~or outside of~~ the property boundary of,
27 and under common ownership or control with, a well production facility, wellhead sites, tank
28

batter~~y~~ies, gathering and boosting station sites, natural gas processing plants, and or transmission compressor stations is ~~are~~ subject to the requirements of 20.2.50.121.NMAC.

B. Emission standards:

(1) Owners and operators of affected pipeline pig launch~~ers~~ing and or receiv~~ers~~ing operations with a PTE equal to or greater than one tpy of VOC shall route capture and reduce VOC emissions from pigging operations to an emissions control device with a destruction or removal efficiency (DRE) of by at least ninety-~~five~~eight percent or to a process stream within three years of, beginning ~~on~~ the effective date of this Part.

(2) – (4) The Group supports the redlines submitted by NMOGA in Appendix B to its direct testimony.

C. Monitoring and inspection requirements:

The Group supports the redlines submitted by NMOGA in Appendix B to its direct testimony, except we would not insert the word “testing” in the caption of 20.2.50.121.C. The Group’s proposed caption is as shown.

D. Recordkeeping requirements:

The Group supports the redlines submitted by NMOGA in Appendix B to its direct testimony.

Q: ARE YOU AWARE OF OTHER STATES THAT HAVE ADOPTED RULE LANGUAGE TO ADDRESS YOUR CONCERNS?

A. Yes. The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, has published a General Plan Approval and/or General Operating Permt, BAQ-GPA/GP-5, for Natural Gas Compression Stations, Processing Plants, and Transmission Stations. Section 2(K)(1)(b) of the general permit requires owners and operators of pigging operations with a VOC emissions rate of 2.7 tpy or greater (or above certain other thresholds) at compressor stations, natural gas processing plants, and transmission stations to control emissions by at least 95%.

Q: WHAT ARE YOUR CONCERNS REGARDING NMED'S PROPOSAL TO REQUIRE OPERATORS TO CAPTURE AND REDUCE VOC EMISSIONS BY 98%?

A. Pig launching and receiving activities are considered to be a batch process as opposed to a continuous process. As such, the volume of gas contained within a launcher or receiver is finite and relatively small. The energy available to move the collected vapor from a given launcher or receiver to the control device is dependent upon the pressure of this trapped gas, which is also finite. During the physical process of routing the vapors to the control device, the rate at which the gas is directed to the control device is regulated such that the pressure of the vapor stream realized at the control device is slightly greater than atmospheric pressure. Adjustments are manually made to this regulating device, a throttle valve, throughout the process until the pressure of the gas reaching the control device is within its operational range which, again, is slightly greater than atmospheric. At this point, insufficient energy remains within the system to move the vapors remaining within the line to the facility's control device, which for safety purposes is typically located a significant distance from the launcher or receiver. At the conclusion of the process, the line from the launcher or the receiver to the control device is isolated. Some vapors remain in the pipeline. Over time, thermal expansion causes the trapped vapors to be released into the atmosphere. For these reasons, operators likely cannot capture and reduce the vapors from pigging activities by 98% as NMED proposed.

Q: WHY DO OPERATORS NEED THREE YEARS TO COMPLY?

A. A period of three years from rule promulgation is needed to afford operators the opportunity to evaluate their launchers and receivers and determine which are applicable facilities. Once applicable facilities are identified, an engineering analysis will have to be performed on each one to determine the best means for routing the vapors contained within the launcher or receiver system to either the facility's control device or a facility process. Included within this engineering analysis is a hydraulic study for optimizing line size based on system operating pressure, required line length,

1 and site topography. Once the design is completed, pipe and ancillary items, including valves and
2 connectors, will have to be procured. Because of the current activity level and an already tight
3 supply line, delivery of these items could take weeks if not months. Once these materials are
4 received, the lines will have to be installed, and the existing launchers and receivers modified to
5 allow for the connecting of the line from the same to either the control device or the facility process.
6 Because of the current activity level, there is also a shortage of skilled laborers available to
7 construct the capture systems. For these reasons, a time period of three years from rule
8 promulgation to required compliance is necessary.
9

10 **Q: ARE YOU AWARE OF OTHER JURISDICTIONS THAT REQUIRE OWNERS OR**
11 **OPERATORS TO INSPECT PIG LAUNCHERS OR RECEIVERS FOR LEAKS?**
12

13 A. No. The federal New Source Performance Standards (“NSPS”) for oil and gas methane and
14 VOC emissions require periodic leak inspections for fugitive emissions from well production
15 facilities but do not require leak inspections of pig launchers or receivers. *See* 40 C.F.R. Part 60,
16 Subparts OOOO and OOOOa. Pennsylvania’s BAQ-GPA/GP-5 also does not require such
17 inspections. The Group can support periodic leak inspections, but operators should have the
18 flexibility to perform audio, visual, and olfactory (“AVO”) inspections or utilize EPA Reference
19 Method 21 instead of mandatory optical gas imaging (“OGI”). My direct testimony recommended
20 that OGI inspections, if required, should not be more frequent than annual, but I did not recommend
21 a frequency for AVO inspections. I endorse NMOGA’s proposal to require AVO, OGI, or Method
22 21 inspections on a monthly basis or, if pigging is conducted less than monthly, prior to the
23 commencement and after the conclusion of the pig launching or receiving operation.
24
25

26 **Q: DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

27 A: Yes.
28

Appendix E

Rebuttal Testimony of Jill Cooper

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1 (“Goodnight”), and 3 Bear Energy, LLC (“3 Bear”), which I may collectively refer to as the
2 “Commercial Disposal Group” or the “Group.”

3 **Q: WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

4 A: The purpose of my rebuttal testimony is to identify the Commercial Disposal Group’s
5 support for and concerns regarding the positions taken and rule language proposed by other parties
6 to this rulemaking. Specifically, my rebuttal testimony specifies the Group’s support of NMOGA’s
7 rule language regarding changes to various definitions (20.2.50.7), storage vessels (20.2.50.123A)
8 with the addition of an exemption request provision (20.2.50.123B.(9)), and NMOGA’s testimony
9 concerning compliance evaluations before transfer of ownership. We also have changes to the
10 produced water management unit requirements (20.2.50.126). The purpose of my testimony is to
11 explain the Group’s concerns with certain provisions in NMED’s proposed ozone precursor rules
12 that would negatively impact their businesses, water conservation efforts, and the broader
13 environment, and to propose reasonable alternatives that will satisfy the purpose of the proposed
14 rules.
15

16
17 **Q: DO YOU OPPOSE NMED’S PROPOSED OZONE PRECURSOR RULES?**

18 A: I support many provisions in NMED’s proposed rules but am concerned that certain
19 provisions are not based on a complete understanding of the industry’s and, in particular, the
20 Commercial Disposal Group’s approach to managing produced water. These provisions, in their
21 present form, will directly and negatively impact each member of the Group’s operations with little
22 to no reduction in precursor emissions. In my direct testimony I addressed the Group’s concerns
23 with the proposed rules relating to (i) definitions, (ii) storage vessels, (iii) produced water
24 management units, and (iv) compliance evaluations before transfer of ownership. In addition to
25 those concerns, this rebuttal testimony will address certain additional considerations regarding these
26 provisions of the proposed rule.
27
28

1 **Q: PLEASE SUMMARIZE YOUR CONCERNS WITH THE PROPOSED OZONE**
2 **PRECURSOR RULES.**

3 A: The provisions the Group is concerned about do not take into consideration the differences
4 between commercial produced water facilities and exploration and production facilities. The Group
5 provides services for disposal of produced water at underground injection well facilities and
6 recycling of produced water at produced water management unit facilities. When applied to these
7 types of facilities, the provisions of the proposed rule impose requirements that are unduly
8 burdensome, prohibitively costly, and/or technically infeasible and would likely return little
9 environmental benefit.
10

11 **II. DEFINITIONS**

12 **Q. NMED HAS PROPOSED AT 20.2.50.7.J THAT “CONSTRUCTION” INCLUDE**
13 **“RELOCATION” OF A STATIONARY SOURCE AND INCLUDE TEMPORARY**
14 **INSTALLATIONS AND PORTABLE SOURCES. IN ITS TESTIMONY, NMED CITED**
15 **PART 72 PERMIT REGULATIONS (EXHIBIT 32, PAGE 15). WHAT IS THE PROBLEM**
16 **WITH THIS APPROACH, PARTICULARLY FOR ENGINES AND TURBINES?**

17 A. The challenge with “relocation” being part of the definition of “construction” is that it would
18 trigger an engine or turbine that is being moved or redeployed to be classified as new engine and
19 therefore fall under a different emission guideline. The same challenge is present with like-kind
20 replacement. Engines (and less commonly turbines) are regularly relocated to continuously
21 optimize horsepower utilization needed for each facility and/or well pad. This includes decreasing
22 engine size (and effectively reducing annual criteria pollutant tonnage) as facility throughput
23 decreases or increasing engine horsepower as a facility is expanding. This allows for engines to
24 remain in compliance with the proposed existing engines emission limits, even if they are relocated
25 to another location. If “relocation” is part of the definition of construction, then it may require
26 engine replacement or costly engine emission retrofit technologies to be required due to this
27 practice of optimization.
28

1 **Q. DOES THE NMOGA REDLINE AT PAGE 2, LINES 55 TO END AND PAGE 3**
2 **LINES 1-12, PROVIDE A BETTER APPROACH TO CONSTRUCTION FOR ENGINES**
3 **AND TURBINES? WHY?**

4 A. Yes, the NMOGA redline referenced is a more practical definition of construction. It allows
5 for existing engines to remain subject to table 1 emission limits even if relocated, replaced with in-
6 kind equipment, or used as a temporary installation. The Group supports NMOGA's proposed
7 changes.

8 **Q. ARE YOU CONCERNED ABOUT AMBIGUITY IN NMED'S PROPOSED**
9 **DEFINITION OF "HYDROCARBON LIQUID" AT 20.2.50.7.S AND IF SO, WHY?**

10 A. Yes. Produced water can contain small amounts of hydrocarbons. The definition as proposed
11 is not clear that these small amounts of hydrocarbons in produced water would not be misconstrued
12 to be hydrocarbon liquids.

13 **Q. DO YOU AGREE WITH THE NMOGA REDLINE AT PAGE 4, LINES 29-35 THAT**
14 **THIS DEFINITION SHOULD CLEARLY STATE "HYDROCARBON LIQUID DOES NOT**
15 **INCLUDED PRODUCED WATER"?**

16 A. NMOGA's suggested language provides needed clarity so that requirements meant for what
17 are truly hydrocarbon liquids are not misapplied. Yes, the Group agrees with NMOGA's requested
18 revisions.

19 **Q. BASED ON THE CONCERN ABOUT PRODUCED WATER EXPRESSED ABOVE,**
20 **DO YOU SUPPORT THE NMOGA REDLINE AT PAGE 4, LINES 39-53 THAT WOULD**
21 **EXCLUDE PRODUCED WATER FROM THE DEFINITION OF LIQUIDS TRANSFER?**

22 A. Yes. See above.

23 **Q. DO YOU BELIEVE THAT IT IS NECESSARY TO REGULATE TRANSFERS**
24 **FROM A TRANSPORT TRUCK TO A STATIONARY VESSEL OR TANK BATTERY AS**
25 **NMED APPEARS TO PROPOSE IN 20.2.50.7.U "LIQUID TRANSFER"?**

26 A. When hydrocarbon liquids are transferred from a storage vessel to a transport vehicle,
27 hydrocarbon vapors are discharged from the transport vehicle tank. The Commercial Disposal
28 Group generally supports requirements for the capture or destruction of such vapors during the
loading operation as found in 20.2.50.120, but as modified by the language suggested by NMOGA
in its initial testimony. However, when these transport vehicles are unloaded to a storage vessel

1 there are no hydrocarbon vapors discharged from the transport vehicle so clearly no capture or
2 control of vapors should be required on the vehicle. When these hydrocarbon liquids are unloaded
3 into a storage vessel, any vapors that are either generated by the unloading process or are expelled
4 from the receiving storage vessel due to fluid level rise should be captured or controlled by the
5 emissions equipment on the storage vessel itself. The requirements for capture or control of vapors
6 associated with storage vessels are already adequately addressed in section 20.2.50.123 – Storage
7 Vessels. The language dealing with unloading of transport vehicles into storage vessels should be
8 removed from 20.2.50.120.

9 **Q. IN ITS REDLINES AT PAGE 6, LINES 35-44, NMOGA PROPOSED TO DEFINE**
10 **HH. “PRODUCED WATER” AS “A LIQUID THAT IS AN INCIDENTAL BYPRODUCT**
11 **FROM WELL COMPLETION AND THE PRODUCTION OF OIL AND GAS” INSTEAD**
12 **OF NMED’S STATEMENT THAT IT IS FROM DRILLING. DO YOU RECOMMEND**
13 **THIS CHANGE?**

14 A. Yes. Liquids associated with drilling are not produced by the well. These liquids are
15 brought to the drilling site specifically to facilitate safe drilling operations. They typically contain
16 extremely low quantities of VOCs (if any) and are not appropriate for ozone precursor control
17 regulations. Including liquids associated with the drilling process could lead to misapplication of
18 rules intended for actual produced liquids including completion flowback and normal oil and gas
19 production. The OCD has recognized that trying to capture or destroy any hydrocarbon gasses
20 associated with drilling operations is not appropriate due to the safety and technical feasibility
21 concerns offered by NMOGA during the hearing before the Oil Conservation Commission that
22 resulted in the new Waste Rule. Thus, the Group supports NMOGA’s proposed changes to the
23 definition of “Produced Water.”

24 **III. STORAGE VESSELS**

25 **Q: DO YOU HAVE CONCERNS ABOUT 20.2.50.123 NMAC AS PROPOSED?**

26 A: Yes.

27 **Q: PLEASE SUMMARIZE YOUR CONCERNS WITH 20.2.50.123 NMAC.**

28 A: Section 123 imposes emission control requirements in relation to storage vessels which are
technically infeasible where the use of supplemental fuel is required. The Group is concerned that

1 facilities with very low emissions could end up increasing total emissions with use of supplemental
2 fuel in order to combust vapors. At water disposal operations, the water typically goes through
3 separation equipment to gather any residual oil prior to sending to a storage tank, which process
4 improves the water quality. At disposal locations, the tanks are enclosed with minimal emissions,
5 such that control devices are not cost or technologically effective at these locations.
6

7 **Q: WOULD YOU SUGGEST A DIFFERENT APPROACH TO REGULATING**
8 **STORAGE VESSELS WHERE THE USE OF AIR POLLUTION CONTROL EQUIPMENT**
9 **WOULD BE TECHNICALLY INFEASIBLE?**

10 A: Yes. In short, we support NMOGA's changes set forth in its direct testimony with the
11 addition of a new Section 20.2.50.123B.(9).
12

13 **Q. ARE STORAGE VESSELS AT SALTWATER DISPOSAL FACILITIES**
14 **GENERALLY AN INSIGNIFICANT SOURCE OF VOC EMISSIONS? (20.2.50.123)**

15 A. I have reviewed information from studies and projects related to emissions from produced
16 water. Based on my review of the information, emissions quantities are directly related to such
17 variables as water quality, water surface area, and wind at the water surface. The produced water
18 sent to disposal facilities and stored in tanks has typically been through separation equipment (gun
19 barrel) to retrieve any residual oil prior to moving to the storage tanks feeding injection pumps,
20 improving the water quality. Additionally, such tanks are typically enclosed. The Fort Worth
21 Natural Gas Air Quality Study evaluated emissions at a produced water disposal location and the
22 emissions for VOCs were not significant (less than 0.1 ton/year), consistent with theoretical
23 expectations. Thus, in my opinion, emissions from tanks located at disposal location are generally
24 an insignificant source of emissions.

25 **Q: DO YOU HAVE SPECIFIC SUGGESTIONS FOR REVISING THE RULE?**

26 A. Yes. As stated by Il Kim, the Group proposes revisions to sections A and B of 20.2.50.123
27 that will address the Group's concerns. We suggest increasing the PTE to equal to or greater than
28 six tpy for existing storage vessels, as proposed by NMOGA. We support a PTE equal to or greater
than 2 tpy for new storage vessels, as recommended by NMED. Where air pollution control

1 equipment can be demonstrated to be technically infeasible, including inability to operate without
2 supplemental fuel, we recommend that the owner or operator be allowed to apply to the NMED for
3 an exemption from the control requirements of Section 20.2.50 NMAC. Our proposed revisions to
4 20.2.50.123 are shown in the redlines included in Il Kim's rebuttal testimony.

5
6 **IV. PRODUCED WATER MANAGEMENT UNITS (20.2.50.126 NMAC)**

7 **Q: DO YOU HAVE CONCERNS ABOUT 20.2.50.126 NMAC AS PROPOSED BY**
8 **NMED?**

9 A: Yes.

10 **Q: PLEASE SUMMARIZE YOUR CONCERNS.**

11 A: In addition to the concerns raised in my direct testimony we have concerns with two
12 definitions related to produced water management units. In order to provide clarity and to
13 encourage recycling activities, the Group suggests: i) modifying the definition of "Produced Water
14 Management Unit" by deleting "recycling facility" and adding "or pond" to the definition of
15 produced water management units and adding "or pond" to the definition of permanent pit; and ii)
16 consider that current water management practices remove hydrocarbons from the water prior to
17 being managed in recycling and disposal operations.

18
19 **Q. NMED EXHIBIT 32, BY NMED TECHNICAL WITNESSES MS. KUEHN AND MR.**
20 **PALMER TESTIFY THAT PRODUCED WATER MANAGEMENT UNIT STANDARDS**
21 **DETAILED IN PROPOSED 20.2.50.126 NMAC SHOULD BE ADOPTED AS PROVIDED**
22 **IN NMED EXHIBIT 41. THEY ALSO TESTIFY THAT VOC EMISSIONS FROM A PWMU**
23 **CAN BE REDUCED BY TREATING PRODUCED WATER TO REMOVE**
24 **HYDROCARBONS BEFORE THE WATER ENTERS THE RECYCLING FACILITY OR**
25 **IMPOUNDMENT THROUGH THREE-PHASE SEPARATORS AND STORAGE**
26 **VESSELS. DO YOU AGREE THIS TECHNOLOGY CAN BE USED TO REDUCE**
27 **EMISSIONS FROM PWMUS? IF SO, CAN YOU DESCRIBE HOW IT WORKS?**
28

1 A. Yes. The current industry practice around water management involves separation, removing
2 oil (skimming), filtering, and other potential practices to manage the water for reuse and recycling
3 in the industry. “Three-phase separation” involves separating the oil, water, and gas after the fluid
4 is produced from the well. Each of these practices result in a decrease of the concentration of VOC
5 emissions from the produced water, thus reducing emissions. I have reviewed information from
6 studies and projects related to emissions from produced water. Based on those reviews, the
7 emissions can be affected based on water quality, surface area, wind levels, etc. It has been difficult
8 to relate actions taken upstream of the pond to exact emission reductions at the pond. The industry
9 has worked diligently over the years to enhance the three-phase separation of oil, natural gas, and
10 water to remove as much product as possible. After this separation process, operators will also
11 work to gather any residual oil prior to sending it to a tank or pond. In addition, in certain
12 circumstances, an operator might further treat the produced water to remove certain constituents.
13 All of these operational actions work to improve the water quality and prevents air emissions from
14 the tanks and ponds.

17 **Q. MS. KUEHN AND MR. PALMER TESTIFY THAT VOC EMISSIONS FROM ALL**
18 **PWMUS AFFECTED BY THIS RULE CAN BE REDUCED TO LESS THAN 2 TONS PER**
19 **YEAR USING THIS TREATMENT TECHNOLOGY. DO YOU AGREE? WHY OR WHY**
20 **NOT?**

21 A. No. Based on my experience managing environmental compliance programs for upstream
22 companies and working for clients that treat and manage produced water, I am not aware of any
23 technology that has been successfully applied that would allow all PWMUs to meet a 2 tpy limit for
24 VOC emissions. The most effective approach to reducing VOC emissions is through pollution
25 prevention or removing hydrocarbons from the water as a product, prior to reaching a PWMU.
26 There are treatment technologies that have been used to treat produced water, but often it is not
27 needed for the reuse of the water. Instead, more treatment can result in greater energy use and costs.
28 Unfortunately, this would likely make recycling uneconomical and infeasible compared to using
“fresh water”. The other option is to build smaller operations purposefully to reduce emissions

1 from any one operation. There are economies of scale in upstream and midstream water
2 management that make it economic to reuse produced water. To achieve volumes needed for
3 operations, many small systems would be needed to achieve the capacity of a single large system,
4 resulting in more required labor, land impacts, transportation costs, energy use, and increasing the
5 overall environmental impact of the operations.

6 **Q. MS. KUEHN AND MR. PALMER TESTIFY THAT NO CAPITAL COSTS WOULD**
7 **BE REQUIRED TO IMPLEMENT TREATMENT TECHNOLOGY AND MEET THE TWO**
8 **TONS PER YEAR LIMIT. DO YOU AGREE? WHY OR WHY NOT?**

9 A. In my opinion, this is not an accurate statement because additional equipment will be
10 necessary. Achieving further emissions reductions will require capital expenditures and will
11 negatively impact the economics of recycling. Each additional piece of equipment requires capital
12 and operating cost. Most of the current PWMUs are constructed with a larger capacity to increase
13 efficiencies. Thus, it is likely that every operator of a PWMU will see an increase in capital costs.

14 **Q: DO YOU HAVE SPECIFIC SUGGESTIONS FOR REVISING THE RULE?**

15 A: Yes. The Group proposes revisions to the definitions in 20.2.50.7 DD and II to remove
16 “recycling facility” and add “or pond.” We also ask that the regulation recognize the importance of
17 water recycling by not applying to operations permitted or registered with the State of New Mexico
18 as a recycling facility. Finally, we request that the 2 tpy VOC emission limit be removed in
19 recognition that existing water management practices will result in lower emissions from the
20 recycling and disposal operations. Instead, we recommend focusing on best practices and good
21 engineering practices to prevent emissions by increasing the recovery of hydrocarbons upstream of
22 PWMUs.

23 **Q: HAVE YOU PREPARED SPECIFIC REVISIONS TO THE RULE THAT**
24 **IMPLEMENT WHAT YOU JUST DESCRIBED?**

25 **A: Yes. Our proposed revisions are shown in the redline below.**

26 **20.2.50.7 DEFINITIONS**

27 DD. “Permanent pit or pond” means a pit or pond used for collection, retention, or storage of produced
water or brine and is installed for longer than one year.

28 II. “Produced water management unit” means ~~a recycling facility or~~ a permanent pit or pond that is a
natural topographical depression, man-made excavation, or diked area formed primarily of earthen materials

(although it may be lined with man-made materials), which is designed to accumulate produced water and has a design storage capacity equal to or greater than 50,000 barrels.

20.2.50.126 PRODUCED WATER MANAGEMENT UNITS

A. Applicability: Produced water management units as defined in this Part are subject to 20.2.50.126 NMAC and shall comply with these requirements no later than 180 days after the effective date of this Part. Except that sources located at a facility or containment that are permitted or registered with the State of New Mexico, Oil Conservation Division as a recycling facility or containment are not subject to 20.2.50 NMAC.

B. Emission standards:

~~(1) The owner or operator shall use best management and good engineering practices to minimize emissions of VOC from produced water management units.~~

~~(2) The owner or operator shall control VOC emissions from each produced water management unit to less than two tons per year.~~

V. TRANSFER OF OWNERSHIP COMPLIANCE EVALUATION (20.2.50.112.C(3))

Q: DO YOU HAVE CONCERNS ABOUT 20.2.50.112.C(3) NMAC AS PROPOSED BY NMED?

A: Yes.

Q: PLEASE SUMMARIZE YOUR CONCERNS.

A: In addition to the Group's direct testimony for this provision, the Group would like to support NMOGA's direct testimony for striking 20.2.50.112.C(3) from the rule the following language:

~~(3) Before the transfer of ownership of equipment subject to this Part, the current owner or operator shall conduct and document a full compliance evaluation of such equipment. The documentation shall include a certification by a responsible official as to whether the equipment is in compliance with the requirements of this Part. The compliance determination shall be conducted no earlier than three months before the transfer of ownership. The owner or operator shall keep the full compliance evaluation and certification by the responsible official for for five years.~~

Overall, this addresses the concerns that the Group raised in its direct testimony.

Q: DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A: Yes.