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**STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT BOARD**

IN THE MATTER OF:

CERTIFICATION FOR THE 2015 OZONE NAAQS
TRANSPORT OR “GOOD NEIGHBOR” PROVISION
OF THE STATE IMPLEMENTATION PLAN

No. EIB 21-05(R)

**WILDEARTH GUARDIANS’ PRE-HEARING STATEMENT AND
NOTICE OF INTENT TO PRESENT TECHNICAL TESTIMONY**

Pursuant to the Notice of Public Comment and Hearing for this matter, WildEarth Guardians (Guardians) submits the attached Pre-Hearing Statement and gives notice that it intends to present technical testimony at the hearing in this matter scheduled for May 28, 2021 before the New Mexico Environmental Improvement Board (EIB).

At the hearing for this matter, Guardians will present technical testimony from Jeremy Nichols, WildEarth Guardians’ Climate and Energy Program Director. Mr. Nichols’ written technical testimony is attached here as Exhibit 1. Mr. Nichols’ resume is included as Exhibit 2, as well as 9 additional exhibits.

Respectfully submitted this 7th day of May, 2021,

/s/ Matthew A. Nykiel
Matthew A. Nykiel
WildEarth Guardians
3798 Marshall Street, Ste. 8
Wheat Ridge, CO 80033
mnykiel@wildearthguardians.org

/s/ Daniel L. Timmons
Daniel L. Timmons
WildEarth Guardians
301 N. Guadalupe Street, Ste. 201
Santa Fe, NM 87501
dtimmons@wildearthguardians.org

Counsel for WildEarth Guardians

CERTIFICATE OF SERVICE

I certify that on May 7, 2021 I filed and served the foregoing **WILDEARTH GUARDIANS' NOTICE OF INTENT TO PRESENT TECHNICAL TESTIMONY** by electronic mail delivery to the following:

Pamela Jones,
pamela.jones@state.nm.us
Board Administrator, Environmental Improvement Board

Karla Soloria
ksoloria@nmag.gov
Counsel for the Environmental Improvement Board

Andrew Knight
andrew.knight@state.nm.us
Counsel for the New Mexico Environment Department

/s/ Matthew A. Nykiel
Counsel for WildEarth Guardians

PRE-HEARING STATEMENT OF WILDEARTH GUARDIANS

I. INTRODUCTION

The New Mexico Environment Department's (NMED or Department) State Implementation Plan Certification for the revised 2015 Ozone National Ambient Air Quality Standards (Certification) is deficient for two separate reasons:

1. By unreasonably relying on outdated data, the Department's Certification failed to ensure that ozone and ozone forming emissions from New Mexico do not travel to other states and significantly contribute to nonattainment or interfere with maintenance of healthy air; and
2. The Department's Certification failed to ensure that New Mexico has sufficient authority in its State Implementation Plan (SIP) to regulate ozone forming emissions from minor stationary sources which may significantly contribute to nonattainment or interference with maintenance of air quality in other states.

Because of these deficiencies, separately and in combination, the New Mexico Environmental Improvement Board (EIB) should deny the Department's petition and instruct the Department to revise and resubmit a determination that confirms New Mexico has the required programs, limits, and controls in place under its SIP to implement, maintain, and enforce the revised 2015 Ozone NAAQS and fulfill its Good Neighbor obligations under the Clean Air Act.

II. BACKGROUND

a. Ozone

Ozone is one of six main air pollutants that the U.S. Environmental Protection Agency (EPA) regulates under the Clean Air Act as harmful to human health and the environment. 40 C.F.R. § 50.19. The EPA regulates ozone under the Clean Air Act because extensive scientific

evidence has linked ozone exposure to serious human health impacts, including respiratory and cardiovascular disease. U.S. Env'tl. Prot. Agency, National Ambient Air Quality Standards for Ozone, 80 Fed. Reg. 65292, 65302 (Oct. 26, 2015). Long-term ozone exposure can lead to hospitalizations, lower birth weight, decreased lung function in newborns, and premature death. 80 Fed. Reg. at 65303-11. Even short-term ozone exposure has been shown to decrease lung function, cause respiratory inflammation, exacerbate asthma and allergies, increase emergency room visits and hospitalizations, and cause or contribute to death in some cases. 80 Fed. Reg. at 65303-07. Studies have shown that low income and minority communities tend to experience disproportionately higher levels of air pollution.¹ With regard to ozone, there is a documented association between racial isolation and elevated pollution levels, particularly in the rural and suburban western United States.²

The Clean Air Act requires EPA to establish air quality standards at a level which protects public health. 42 U.S.C. § 7409. As scientific and medical advances over the past three decades have shown the health impacts of ozone at lower and lower concentrations, the EPA has, accordingly, revised the allowable level of ozone in the ambient air from 0.08 parts per million (ppm) over an eight-hour period in 1997, to 0.075 ppm in 2008, and most recently to 0.070 ppm in 2015.

The ozone molecule forms when two key pollutants – nitrogen oxides (NO_x) and volatile organic compounds (VOCs) – react with sunlight. Because of this relation NO_x and VOCs are

¹ Exhibit 3, Miranda, M.L., S.E. Edwards, M.H. Keating, and C.J. Paul, “Making the environmental justice grade: the relative burden of air pollution exposure in the United States,” *Int. J. Environ. Res. Public Health*, 2011 June; 8(6): 1755-1771.

² Exhibit 4, Bravo, M.A., R. Anthopolos, M.L. Bell, M.L. Miranda, “Racial isolation and exposure to airborne particulate matter and ozone in understudied US populations: environmental justice applications of downscaled numerical model output,” *Env. Int.*, 2016, 92-93: 247-255.

often referred to as “precursor emissions” to the formation of ozone. Ozone harms human and environmental health when it occurs at ground-level and is the key ingredient of smog.

Humans cause NO_x and VOCs to pollute the air mainly through our use of fossil fuels. Oil and gas production and development, motor vehicle fuel combustion, and other forms of fossil fuel combustion are often the primary anthropogenic emission sources of ozone precursors. The EPA’s recent National Emissions Inventories reveal that in parts of New Mexico suffering the most ozone pollution a majority of local emissions come from oil and gas sources.³ EPA has also identified oil and gas production as the primary industrial producer of VOCs.⁴

b. State Implementation Plans

Individual states respond to and prevent ozone pollution by developing and implementing SIPs, as required by the Clean Air Act and enforced by the EPA. SIPs contain the state-adopted enforcement programs, emission limitations, and control measures for air pollutants, and ensure each state attains and maintains all NAAQS. 42 U.S.C. § 7410. SIPs function as living documents that, by law, must be updated and revised from time to time. For example, within three years of the EPA proposing or revising a National Ambient Air Quality Standard (NAAQS), every state must prepare a SIP submission, explaining how the state’s plan will meet the specific requirements outlined in section 110(a)(2) of the Clean Air Act. The EPA refers to this type of SIP submission as an “infrastructure” SIP because this document ensures that a state’s plan has the programs, limits, and controls necessary to implement, maintain, and enforce the new or revised air standards.

³ See EPA, 2017 National Emissions Inventory Interactive Report, https://edap.epa.gov/public/extensions/nei_report_2017/dashboard.html#trend-db (last accessed May 6, 2021); see also EPA, 2014 Version 2 National Emissions Inventory Interactive Report, https://edap.epa.gov/public/extensions/nei_report_2014/dashboard.html#trend-db (last accessed May 6, 2021).

⁴ Controlling Air Pollution from the Oil and Natural Gas Industry, Env’tl. Prot. Agency, <https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/basic-information-about-oil-and-natural-gas> (last accessed May 5, 2021).

c. Good Neighbor Provision

A required component of each SIP is an analysis and determination that the state's air pollution rules will prohibit any air pollution produced in the state that could travel and negatively affect other states. 42 USC § 7401(a)(2)(D)(i)(I). This component of a SIP is often referred to as the "Good Neighbor" provision or "interstate transport SIP." Specifically, the Good Neighbor provision requires states to ensure their SIPs contain provisions that prohibit emissions that would significantly contribute to nonattainment in or interfere with maintenance by any other state. The reference to "nonattainment" in the Good Neighbor provision is not limited to "areas" designated as nonattainment, but refers to the status of air quality. The EPA has explained, "it is clear that the reference in section 110(a)(2)(D)(i)(I) to 'nonattainment' refers to air quality, not designation status." 63 Fed. Reg. 57,356, 57,372 (Oct. 27, 1998).

When the EPA revised the ozone air quality standard to 0.070 ppm on October 1, 2015, this revision triggered the legal requirement that all states submit a new infrastructure SIP for ozone, including a Good Neighbor determination, showing that every states' control measures for ozone will prevent in-state emissions of ozone from harming their downwind neighbors. U.S. Env'tl. Prot. Agency, National Ambient Air Quality Standards for Ozone, 80 Fed. Reg. 65292, 65302 (Oct. 26, 2015). Under the Clean Air Act, every state had three years from the time of EPA's 2015 revision of the ozone air quality standard to submit a new infrastructure SIP. To help each state comply with its Good Neighbor obligations by the 2018 deadline, the EPA published a series of guidance documents in 2017 and 2018.⁵ These guidance documents

⁵ See Stephen D. Page, Director of OAQPS, EPA, Supplemental Information on the Interstate Transport State Implementation Plan Submissions for the 2008 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I), October 27, 2017; see also Peter Tsirigotis, Director of OAQPS, EPA, Information on the Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I), March 27, 2018 (hereinafter "2018 Memo"); see also Peter Tsirigotis, Director of OAQPS, EPA, Analysis of Contribution Thresholds for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National

presented modeling data and a general framework states could use to help determine their Good Neighbor obligations. However, the EPA cautioned states not to view the guidance documents as definitive or final and reminded states of their independent responsibility to comply with the law and regulations of the Clean Air Act.

Following these recommendations does not ensure that the EPA will approve a SIP revision in all instances where the recommendations are followed, as the guidance may not apply to the facts and circumstances underlying a particular SIP. Final decisions by the EPA to approve a particular SIP revision will only be made based on the requirements of the statute and will only be made following an air agency's final submission of the SIP revision to the EPA, and after appropriate notice and opportunity for public review and comment.⁶

In addition, for states relying on EPA's 2023 modeling data, the EPA recommended that states include state-specific information to support such reliance and encouraged states to supplement the information provided in the memo with additional information that may be relevant to addressing the Good Neighbor provision requirements.⁷

To assist states' efforts to develop Good Neighbor SIPs for the 2015 Ozone NAAQS and address their interstate transport obligations, the EPA described a four-step framework for addressing the Good Neighbor provision. The four-steps include:

1. Identify downwind air quality problems;
2. Identify upwind states that contribute enough to those downwind air quality problems to warrant further review and analysis;

Ambient Air Quality Standards, August 31, 2018; *see also* Peter Tsirigotis, Director of OAQPS, EPA, Considerations for Identifying Maintenance Receptors for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards, October 19, 2018.

⁶ Peter Tsirigotis, Director of OAQPS, EPA, Analysis of Contribution Thresholds for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards, August 31, 2018 at 1.

⁷ 2018 Memo at 6.

3. Identify the emissions reductions necessary (if any), considering cost and air quality factors, to prevent an identified upwind state from contributing significantly to those downwind air quality problems; and
4. Adopt permanent and enforceable measures needed to achieve those emissions reductions.⁸

To identify downwind air quality problems (Step 1), the EPA modeled downwind air quality in a future year – for purposes of the 2015 Ozone NAAQS, EPA selected 2023 as the future year. Using photochemical modeling, EPA projected ozone concentrations in 2023 throughout the United States by inputting data that was available to EPA at the time it conducted the modeling. Available data at the time included 2011 emissions and meteorology data, design value monitor data from three different periods (2009-2011, 2010-2012, and 2011-2013), a 2011-based modeling platform, historic oil and gas production data from 2011-2015, projections factors for oil and gas based on the 2017 Annual Energy Outlook, and current “on-the-books” regulations.⁹ According to EPA’s 2018 Memo, an air quality problem exists in one of two circumstances:

1. Monitoring sites that measure a 2014-2016 design value of 71ppb or greater and that are projected to measure an average design value in 2023 of 71 ppb or greater; or
2. Monitoring sites that are projected to measure a maximum 3-year design value in 2023 of 71 ppb or greater.

⁸ 2018 Memo at 2-3.

⁹ See Stephen D. Page, Director of OAQPS, EPA, Supplemental Information on the Interstate Transport State Implementation Plan Submissions for the 2008 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I), October 27, 2017 at 8-9; *see also* 2018 Memo at 4; *see also* Exhibit 5, EPA, Technical Support Document, Additional Updates to Emissions Inventories for the Version 6.3, 2011 Emissions Modeling Platform for the Year 2023, October 2017 at 104.

After identifying downwind air quality problems (Step 1), EPA performed a separate calculation to estimate how much of the projected ozone levels at each monitoring site identified in Step 1 resulted from ozone precursor emissions originating in specific upwind states, as opposed to sources within the state of the downwind monitor (Step 2). EPA's Step 2 modeling also used the data available to EPA at the time it conducted the modeling, much of which included or was based on the data EPA used in Step 1.

The Department's Certification used EPA's guidance as the basis for determining New Mexico's Good Neighbor obligations. Specifically, EPA's 2018 Memo is the basis for NMED's Step 1 and 2 determinations in EPA's Good Neighbor framework.¹⁰

d. The Department's Certification

EPA's 2018 Memo and the modeling presented therein were intended to assist states' efforts to develop Good Neighbor SIPs for the 2015 Ozone NAAQS, which were due by law nearly three years ago, in October 2018. The Department, however, did not submit a Good Neighbor SIP by the legal deadline in 2018, which prompted EPA to issue a finding on December 5, 2019 that New Mexico was one of only five states to fail to submit any Good Neighbor SIP for the 2015 ozone NAAQS. Findings of Failure to Submit a Clean Air Act Section 110 State Implementation Plan for Interstate Transport for the 2015 Ozone National Ambient Air Quality Standards (NAAQS), 84 Fed. Reg. 66,612 (Dec. 5, 2019). Since then, emissions of ozone precursors and air quality throughout the country has changed such that the data and modeling presented in EPA's 2018 Memo is no longer representative of current or projected air quality. Since 2018, more scientific data has become available for assessing New Mexico's Good Neighbor obligations under the Clean Air Act, but the Department did not

¹⁰ New Mexico Environment Department, New Mexico's Good Neighbor State Implementation Plan Certification for the 2015 Ozone NAAQS, Public Review Draft – December 2019 at 2.

consider these data. Accordingly, the Department erred by relying on outdated EPA guidance and failing to evaluate readily-available, up-to-date air quality and emissions data in its Certification.

III. DEPARTMENT'S CERTIFICATION IS DEFICIENT

a. Department's Certification Failed to Consider Updated Data

The Department's Certification cannot be approved because the Department did not take adequate steps to demonstrate compliance with the Good Neighbor provision of the Clean Air Act. The Department acted arbitrarily and capriciously when (1) it relied on air quality projections in EPA's modeling that were dependent on emissions and air quality data that are no longer the best available scientific data; and (2) it relied on pollution reductions projected in EPA's modeling that were dependent on rules that, since the time EPA conducted the modeling, have been revised or have not yet been implemented.

Guardians' testimony will show that the Department's Certification relied on EPA modeling, which was based on 2011 emissions and meteorology data, design value monitor data from 2009-2013, a 2011-based modeling platform, historic oil and gas production data from 2011-2015, and projections factors for oil and gas based on the 2017 Annual Energy Outlook. In addition, testimony will also show that the Department identified downwind air quality problems based, in part, on 2014-2016 ozone design values rather than on current available design values. Guardians submitted public comments providing the Department updated emissions and air quality data necessary for improving the accuracy of projected future year air quality conditions, but without explanation the Department chose not to consider these data and to continue to rely on EPA's outdated data and modeling.

Guardians' testimony will also show that the modeling on which the Department relied assumed future ozone precursor emission reductions based on the implementation of the 2016 New Source Performance Standards (NSPS) for the oil and gas sector and the 2017 Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards (CAFE Standards). However, the forecasted emissions reductions from these rules have not been fully realized to date because the EPA did not implement the former rule between 2017-2021, and the EPA revised the latter rule in 2020, reducing the rule's requirements to reduce emissions from vehicles. Despite the changes to these rules, the modeling the Department used to evaluate New Mexico's Good Neighbor obligations simply assumes the full implementation of the rules as they were originally promulgated.

The Department did not consider the impacts of these rule changes on the future year modeling or explain why the Department declined to conduct new modeling that accounted for the rule changes. For example, when the 2016 NSPS for VOC and methane emissions from the oil and gas sector was promulgated in 2016, EPA estimated that the final NSPS for this sector would reduce about 300,000 tons of methane emissions and 150,000 tons of VOC emissions from affected facilities by 2020. EPA also estimated that the final NSPS for this sector would reduce about 510,000 tons of methane emissions and 210,000 tons of VOC emissions from affected facilities by 2025. However, with the transition of the Trump Administration in 2017, EPA declined to implement these New Source Performance Standards and later promulgated rules revising the 2016 NSPS. As such, the 2016 NSPS emission reductions EPA forecast in 2016 were likely not realized between 2017 and 2021.¹¹

¹¹ On April 28, 2021 the U.S. Senate passed a resolution pursuant to its authority under the Congressional Review Act to disapprove the rule adopted by the Trump Administration which lifted certain emission reduction requirements that had been put in place by the Obama-era NSPS for the oil and gas sector. However, the potential

The lack of implementation of this 2016 NSPS and changes to the CAFE Standards are relevant to the Department's determination of New Mexico's Good Neighbor obligations, but the Department did not consider the impacts of these changes, and did not explain why considering this impact was unnecessary. Accordingly, approval of the Department's Certification is not supported.

b. New Mexico's SIP is Inadequate to Meet the Requirements of the Clean Air Act

The Department's Certification does not confirm that the State of New Mexico has the required "infrastructure" in place under the current SIP to implement, maintain, and enforce the revised 2015 Ozone NAAQS and fulfill its Good Neighbor obligations under the Clean Air Act. First, the current SIP is plainly inadequate because it has demonstrably failed to attain and maintain the ozone NAAQS. Second, as interpreted by the Department and the EIB, the SIP does not provide the Department the necessary authority to properly regulate minor stationary sources of ozone precursor emissions, further rendering the SIP inadequate. Accordingly, there is no basis for the Department's conclusion that the current SIP is sufficient for demonstrating compliance with the Good Neighbor provision of the Clean Air Act.

i. The SIP is Inadequate as it is Failing to Attain and Maintain the Ozone NAAQS

Under the Clean Air Act, a SIP must provide for the implementation, maintenance, and enforcement of the NAAQS, and must assure attainment and maintenance of the NAAQS. *See* 42 U.S.C. § 7401(a)(1); *see also* 40 C.F.R. § 51.112(a). Where the NAAQS are not being attained and maintained, a SIP is not in compliance with the Clean Air Act.

reinstatement of the 2016 NSPS for the oil and gas sector does nothing to address the foregone emissions reductions between 2017-2021 that would have been realized had the EPA implemented the rule during that time.

At the end of 2016, only one air quality monitor in New Mexico recorded a design value violating the 2015 Ozone NAAQS. However, by the end of 2019, at least five air quality monitors outside designated nonattainment areas in New Mexico recorded design values violating the 2015 Ozone NAAQS. Monitoring data in New Mexico from the 2020 ozone season indicates violations of the 2015 Ozone NAAQS in New Mexico persist outside of designated nonattainment areas.

The Department did not consider recent and ongoing NAAQS violations in New Mexico when evaluating whether the current SIP has the required “infrastructure” in place to implement, maintain, and enforce the revised 2015 Ozone NAAQS and fulfill its Good Neighbor obligations. The repeated violations of the 2015 Ozone NAAQS shown by the relevant monitoring data plainly demonstrate that the current SIP is inadequate to protect and maintain healthy air quality.

ii. As interpreted by the Department and the EIB, New Mexico’s SIP fails to provide the state with the authority to properly regulate emissions from minor stationary sources of ozone precursors and does not comply with the Clean Air Act

As interpreted by the Department and the EIB, the current SIP is further inadequate as it fails to provide the Department authority to properly regulate minor stationary sources of ozone precursor emissions. At issue is the fact that the Department interprets the SIP as not authorizing the Department to prohibit the construction or modification of minor stationary sources of air pollution that would interfere with attainment or maintenance of the ozone NAAQS. Although the Clean Air Act requires the New Mexico SIP to contain adequate provisions prohibiting sources from emitting air pollution that would contribute significantly to nonattainment or interfere with maintenance in other states, the Department interprets the SIP as categorically exempting minor stationary sources from this requirement with regards to the ozone NAAQS.

Accordingly, the SIP does not contain adequate provisions demonstrating compliance with the Good Neighbor provision of the Clean Air Act.

Under the Clean Air Act, a SIP must provide for the implementation, maintenance, and enforcement of the NAAQS. 42 U.S.C. § 7410(a)(1). To implement, maintain, and enforce the NAAQS, a SIP must contain “enforceable limitations and other control measures, means, or techniques [], as well as schedules and timetables for compliance, as may be necessary or appropriate[.]” 42 U.S.C. § 7410(a)(2)(A).

Among the “enforceable emission limitations and other control measures, means, or techniques” required to implement, maintain, and enforce the NAAQS, the Clean Air Act expressly requires that SIPs include a program providing for the “regulation of the modification and construction of any stationary source within the areas covered by the [SIP].” 42 U.S.C. § 7410(a)(2)(C). To this end, federal regulations require that SIPs set forth procedures enabling a state to determine whether the construction or modification of a stationary source will interfere with attainment or maintenance of a NAAQS, including “in a neighboring state.” 40 C.F.R. § 51.160(a)(2). The regulations further require that SIPs provide a means by which a state will prevent the construction or modification of a stationary source of air pollution if it would “interfere with the attainment or maintenance of a [NAAQS].” 40 C.F.R. § 51.160(b)(2).

Given that SIPs must prevent the construction of stationary sources of air pollution that would interfere with attainment or maintenance of the NAAQS, they must, by extension and as a practical matter, also prohibit the construction of stationary sources of air pollution that would contribute significantly to nonattainment or interfere with maintenance in other states. In other words, if a SIP does not contain provisions preventing the construction of new or modified

stationary sources that would interfere with attainment or maintenance of the NAAQS, the SIP cannot satisfy the Clean Air Act's Good Neighbor provision.

Unfortunately, New Mexico's SIP does not contain provisions prohibiting emissions from new or modified stationary sources of air pollution that would significantly contribute to nonattainment or interfere with maintenance of the 2015 ozone NAAQS in other states. The inadequacies here are twofold:

- 1) The SIP does not authorize the Department to gather data necessary to determine whether emissions from a new or modified minor stationary source of air pollution would cause or contribute to violations of the ozone NAAQS; and
- 2) As interpreted by the Department and EIB, the SIP prohibits the Department from denying a permit for a new or modified minor stationary source of air pollution because it would interfere with attainment or maintenance of the ozone NAAQS.¹²

These inadequacies were spotlighted during a recent adjudicatory hearing before the EIB, where officials with the Department interpreted the SIP as limiting the State's authority to consider ozone impacts associated with minor source permits:

- The Department interprets the SIP as not requiring any evaluation of the impacts of permitting new and modified minor sources on the ozone NAAQS, even where monitored air pollution levels already exceed the ozone NAAQS. In testimony, the Department's Air Quality Bureau stated:

"...the Board's rules do not require the Department to evaluate ozone impacts for individual NSR minor source permit applications."¹³

¹² The reference to "minor source" refers to minor sources under the Clean Air Act's Prevention of Significant Deterioration Program. In general, minor sources under Prevention of Significant Deterioration are sources that emit less than 250 tons per year of regulated air pollutants, including VOCs and NOx. *See* 40 C.F.R. § 51.166(b)(1)(i)(b).

¹³ Exhibit 6, *In the matter of EIB No. 20-21(A) and 20-33(A)*, New Mexico Environment Department's Statement of Intent to Present Direct Technical Testimony at 8, available online at <https://www.env.nm.gov/environmental->

The Bureau's witness also testified that 20.2.72.500 NMAC, which is part of the SIP, does not list ozone as an ambient air pollutant that requires evaluation when permitting.¹⁴

This means the Department interprets the SIP as not requiring the assessment of whether the construction of new or modified minor sources would significantly contribute to nonattainment or interfere with maintenance in other states.

- The Department interprets the SIP as exempting minor sources from the Clean Air Act's requirement that the agency both determine whether new or modified sources would interfere with attainment or maintenance of the ozone NAAQS and prevent the construction of new or modified sources that would interfere with attainment or maintenance. In testimony, Department staff from the Air Quality Bureau explained that "there is no basis for the Department to require further analyses of ozone impacts from [minor] sources," explaining that minor sources are presumed to not have a "significant" impact on ozone concentrations, even in areas currently violating the NAAQS.¹⁵ By extension, this means the Department interprets the SIP as allowing minor sources of air pollution to be constructed or modified even where they may significantly contribute to nonattainment or interfere with maintenance in other states.
- The Department interprets the SIP as not providing the Department any authority to deny minor source permits for new or modified stationary sources of air pollution that would interfere with attainment or maintenance of the ozone NAAQS. In testimony, the Department's Air Quality Bureau Chief stated that if they were to deny permits that

improvement/wp-content/uploads/sites/8/2020/05/2020-08-03-OPF-EIB-20-21A-and-20-33A-NMED-Statement-of-Intent-with-Exhibits-WEG-Air-Permit-Appeals.pdf.

¹⁴ *Id.*

¹⁵ *Id.* at 9.

interfere with attainment or maintenance of the ozone NAAQS, the Department “would be acting outside its authority[.]”¹⁶ By extension, this means the SIP does not give NMED the necessary authority to prohibit emissions from new or modified stationary sources of air pollution that would violate the Good Neighbor provision.

In its Final Order upholding the Department, the Environmental Improvement Board upheld the Department’s interpretation of the SIP as limiting the Department’s authority to control ozone precursor emissions from minor sources, stating:

The Board’s regulations and NMED’s Modeling Guidelines [] do not require analysis of ozone impacts for minor sources...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.¹⁷

Taken together, this demonstrates that, as interpreted by the Department and EIB, the current New Mexico SIP exempts minor sources from review of ozone impacts and does not authorize the Department to deny minor stationary source permits that would cause or contribute to violations of the NAAQS. By extension, this means the SIP does not contain adequate provisions prohibiting emissions from new or modified minor stationary sources that would significantly contribute to nonattainment or interfere with maintenance in other states.

The fact that the SIP purportedly excludes minor stationary sources from proper permitting oversight with regards to the ozone NAAQS is not a trivial matter. In just the past several years, the Department has approved thousands of air quality permits for new and modified minor sources of ozone precursors, authorizing significant increases of total VOC and NOx emissions in New Mexico. For example, data from the Department shows that in 2020,

¹⁶ *Id.* at 10.

¹⁷ Exhibit 7, *In the matter of EIB No. 20-21(A) and 20-33(A), Final Order* at 16 and 23, <https://www.env.nm.gov/environmental-improvement/wp-content/uploads/sites/8/2019/09/Final-Order-EIB-20-21-and-20-33.pdf>.

more than 400 new source review permits were issued authorizing the construction or modification of stationary sources of air pollution associated with the oil and gas industry just in the Permian Basin. That same year the Department also approved more than 300 general permits registrations, also authorizing the construction or modification of stationary sources of air pollution associated with the oil and gas industry just in the Permian Basin. EPA emissions data confirms that in parts of New Mexico suffering the most ozone pollution, oil and gas facilities are a significant source of the ozone pollution.¹⁸

IV. CONCLUSION

The Department's proposed Certification is deficient for two primary reasons. First, ozone precursor emissions, air quality, and emissions controls have significantly changed in the past several years. But the modeling the Department relied on for determining New Mexico's Good Neighbor obligations did not reflect these changes and is not representative of current or future year ozone projections. Accordingly, the Certification cannot reliably show whether or not New Mexico's SIP contains adequate provisions to prohibit emissions in an amount that will contribute significantly to unhealthy air quality in downwind states.

Second, the Department's Certification failed to address the persistent violations of the 2015 Ozone NAAQS documented in New Mexico in recent years and the State's stated position that it lacks the authority to properly regulate ozone precursor emissions from minor stationary sources, as needed to determine whether New Mexico's SIP is substantially adequate for attaining and maintaining the 2015 Ozone NAAQS. The ongoing ozone problem in New Mexico and the State's inability to control the ozone precursor emissions from an entire category of emissions both suggest New Mexico's SIP is inadequate.

¹⁸ Exhibit 8, Pet'r's Emergency Mot. for Stay Pending Review; Mot. for Expedited Review at 81, *California v. Wheeler*, No. 20-1357 (Sept. 18, 2020).

For these reasons, the Certification does not confirm that the State of New Mexico has the required “infrastructure” in place under the current SIP to implement, maintain, and enforce the revised 2015 Ozone NAAQS and to fulfill its Good Neighbor obligations under the Clean Air Act. Guardians requests that the EIB deny the Department’s petition and instruct the Department to evaluate New Mexico’s SIP and Good Neighbor obligations according to updated data and to address substantial inadequacies in the current SIP.

WILDEARTH GUARDIANS' LIST OF EXHIBITS

Exhibit Number	Document Title
WildEarth Guardians Exhibit 1	Testimony of Jeremy Nichols
WildEarth Guardians Exhibit 2	Resume of Jeremy Nichols
WildEarth Guardians Exhibit 3	Miranda, M.L., S.E. Edwards, M.H. Keating, and C.J. Paul, "Making the environmental justice grade: the relative burden of air pollution exposure in the United States," <i>Int. J. Environ. Res. Public Health</i> , 2011 June; 8(6): 1755-1771.
WildEarth Guardians Exhibit 4	Bravo, M.A., R. Anthopolos, M.L. Bell, M.L. Miranda, "Racial isolation and exposure to airborne particulate matter and ozone in understudied US populations: environmental justice applications of downscaled numerical model output," <i>Env. Int.</i> , 2016, 92-93: 247-255
WildEarth Guardians Exhibit 5	EPA, Technical Support Document, Additional Updates to Emissions Inventories for the Version 6.3, 2011 Emissions Modeling Platform for the Year 2023 (Oct. 2017)
WildEarth Guardians Exhibit 6	<i>In the matter of EIB No. 20-21(A) and 20-33(A)</i> , New Mexico Environment Department's Statement of Intent to Present Direct Technical Testimony
WildEarth Guardians Exhibit 7	<i>In the matter of EIB No. 20-21(A) and 20-33(A)</i> , Final Order (Jan. 22, 2021)
WildEarth Guardians Exhibit 8	Pet'r's Emergency Mot. for Stay Pending Review; Mot. for Expedited Review at 81, <i>California v. Wheeler</i> , No. 20-1357 (Sept. 18, 2020)
WildEarth Guardians Exhibit 9	Parikh, R., J. Grant, A. Bar-Ilan, <i>Development of Baseline 2014 Emissions from Oil and Gas Activity in Greater San Juan Basin and Permian Basin</i> , Final Report Prepared for Bureau of Land Management, Western States Air Resources Council, and Western Regional Air Partnership. (November 2018)
WildEarth Guardians Exhibit 10	Grant, J., R. Parikh, A. Bar-Ilan, <i>Future Year 2028 Emissions from Oil and Gas Activity in the Greater San Juan Basin and Permian Basin</i> , Final Report Prepared for Bureau of Land Management, Western States Air Resources Council, and Western Regional Air Partnership. (August 2018)
WildEarth Guardians Exhibit 11	"Comparison of Oil and Gas Emission Estimates from the Greater San Juan Basin Inventory Project Emission Inventory to the 2014 National Emission Inventory (Version 2)," Memo Prepared June 25, 2018

EXHIBIT 1

DIRECT TECHNICAL TESTIMONY OF JEREMY NICHOLS

I. Introduction

My name is Jeremy Nichols, and I am the Climate and Energy Program Director for WildEarth Guardians (Guardians). Guardians is a nonprofit environmental advocacy organization founded 32 years ago in Santa Fe, New Mexico. The organization's mission is to protect and restore the wildlife, wild places, wild rivers, and health of the American West. The organization currently has more than 120,000 members and supporters.

I present this written testimony on behalf of Guardians for the public hearing in the matter EIB 21-05, regarding the New Mexico Environment Department's (NMED) petition filed with New Mexico's Environmental Improvement Board for the adoption of the State Implementation Plan (SIP) Certification for the 2015 Ozone Transport, or "Good Neighbor" provision.

In its petition, NMED contends that based on the U.S. Environmental Protection Agency's (EPA's) modeling data and NMED's analyses, New Mexico will not significantly contribute to nonattainment or interfere with maintenance in downwind states for purposes of compliance with the Good Neighbor obligations under the 2015 Ozone National Ambient Air Quality Standards (NAAQS). Accordingly, NMED concludes that New Mexico's current SIP sufficiently addresses the necessary Good Neighbor provisions of the Clean Air Act and a substantive SIP revision is not needed.

My testimony will show that NMED unreasonably relied on outdated, unrepresentative data and modeling from EPA, despite there being more representative data readily available on which NMED could have based its Good Neighbor SIP. As such, NMED's SIP Certification for the 2015 Ozone Good Neighbor provision does not demonstrate compliance with the Clean Air Act.

My testimony will address the following topics: the public health impacts of ozone pollution and how it is formed; how states are required to address ozone pollution and the interstate transport of ozone under the Clean Air Act; and four categories of recent data that cast doubt on the reliability of the emissions and air quality projections NMED relied on for its Good Neighbor determination.

II. Qualifications

My full background and qualifications are set forth in my resume, which is marked as Exhibit 2.

I am currently the Climate and Energy Program Director for WildEarth Guardians. In this capacity, I have led the organization's engagement in air quality regulatory matters for over

13 years. Previous to this position, I was the founder and director of a nonprofit clean air advocacy organization called Rocky Mountain Clean Air Action. I have over 20 years of direct, hands-on experience in weighing in on and scrutinizing air quality regulatory actions, including stationary source permitting, SIP revisions, state-only rulemakings, and enforcement. I work closely with and provide consulting support for scientists, attorneys, elected officials, and the general public on air quality and air quality regulatory matters.

In my years of working on air quality regulatory issues, I have provided testimony, comments, and information to numerous air quality agencies, boards, and commissions. I have provided technical testimony to the New Mexico Environmental Improvement Board. I have provided expert testimony to the Colorado Air Quality Control Commission. I have developed and submitted comments on numerous permits, both New Source Review and Title V Operating Permits, and state regulatory proposals. I have provided comments and testimony in response to numerous EPA regulatory actions, including SIP reviews, proposed New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants, regional haze regulations, and nonattainment planning. I have practiced before the EPA's Environmental Appeals Board.

III. Background

A. Ozone

Ozone harms human and environmental health when it occurs at ground-level and is often referred to as smog.¹⁹ It is well known that ozone exposure is linked to serious human health impacts, including respiratory and cardiovascular disease.²⁰ Long-term ozone exposure can lead to hospitalizations, lower birth weight, decreased lung function in newborns, and premature death.²¹ Even short-term ozone exposure has been shown to decrease lung function, cause respiratory inflammation, exacerbate asthma and allergies, increase emergency room visits and hospitalizations, and cause or contribute to death in some cases.²² Studies have shown that low income and minority communities tend to experience disproportionately higher levels of air pollution, including ozone.²³

To protect public health, the EPA has established NAAQS for ozone. The current NAAQS, which was adopted in 2015, limits eight-hour concentrations of ozone to no more than

¹⁹ U.S. EPA, "Ground-level ozone basics," website available at <https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics>.

²⁰ U.S. EPA, "Health effects of ozone pollution," website available at <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>.

²¹ U.S. EPA, "Ozone and Health," fact sheet available at <https://www.epa.gov/sites/production/files/2016-04/documents/20151001healthfs.pdf>.

²² *Id.*

²³ See e.g., Exhibit 3, Miranda, M.L., S.E. Edwards, M.H. Keating, and C.J. Paul, "Making the environmental justice grade: the relative burden of air pollution exposure in the United States," *Int. J. Environ. Res. Public Health*, 2011 June; 8(6): 1755-1771; Exhibit 4, Bravo, M.A., R. Anthopolos, M.L. Bell, M.L. Miranda, "Racial isolation and exposure to airborne particulate matter and ozone in understudied US populations: environmental justice applications of downscaled numerical model output," *Env. Int.*, 2016, 92-93: 247-255.

0.070 parts per million (ppm).²⁴ An exceedance of the NAAQS occurs whenever air quality rises above 0.070 ppm. A violation of the NAAQS occurs when the three-year average of the fourth highest annual eight-hour ozone values exceed 0.070 ppm.²⁵ There is cause for health concern whenever ozone levels rise above 0.070 ppm.

Ozone molecules form when two key pollutants – nitrogen oxides (NOx) and volatile organic compounds (VOCs) – react with sunlight.²⁶ Because of this relation NOx and VOCs are often referred to as “precursor emissions” to the formation of ozone. NOx and VOC emissions can travel great distances, contributing to regional ozone pollution.²⁷ Ozone formed in a particular area can also travel great distances, influencing ozone concentrations in downwind locations. Regional transport of ozone and ozone precursor emissions that emanate in one state can make it difficult for downwind states to comply with the NAAQS.²⁸

NOx and VOCs are released from smokestacks, tailpipes, and oil and gas production activities. NMED has identified oil and gas production activities as the primary contributor to elevated ozone levels in northwest and southeast New Mexico and has even proposed new regulations that would establish control requirements for NOx and VOC emissions from the oil and gas sector.²⁹

B. State Implementation Plans and Clean Air Act “Good Neighbor” Requirements

Individual states respond to and prevent ozone pollution by developing and implementing SIPs as required by the Clean Air Act. While SIPs contain state-adopted rules, they are federally reviewed and approved. SIPs contain the enforcement programs, emission limitations, and control measures for pollutants such as ozone and ozone precursors and must ensure attainment and maintenance of the NAAQS.

A required component of each SIP is an analysis and determination that a state’s air pollution rules will prohibit any air pollution produced in the state that could travel and negatively affect neighboring states.³⁰ Specifically, SIPs must prohibit “any source or emissions activity within the [s]tate from emitting any air pollutant in amounts which will contribute significantly to nonattainment in, or interfere with maintenance by, any other [s]tate with respect to any such national primary or secondary ambient air quality standard[.]”³¹ This component of a SIP is often referred to as the “Good Neighbor” provision.³²

²⁴ 40 C.F.R. § 50.15.

²⁵ *Id.*

²⁶ *Supra.* Note 19.

²⁷ U.S. EPA, “Interstate air pollution transport,” website available at <https://www.epa.gov/interstate-air-pollution-transport/interstate-air-pollution-transport>.

²⁸ *Id.*

²⁹ *In the Matter of Proposed New Regulation, 20.2.50 NMAC, “Petition for Regulatory Change,”* No. EIB 21-27, available online at <https://www.env.nm.gov/air-quality/wp-content/uploads/sites/2/2018/08/2021-05-06-EIB-21-27-Petition-for-Regulatory-Change-Part-20.2.50-pj.pdf>.

³⁰ 42 USC § 7401(a)(2)(D)(i)(I).

³¹ *Id.*

³² *Supra.* Note 26.

The EPA established new NAAQS for ozone in October 2015.³³ This revision triggered a legal requirement that all states submit a revised SIP to ensure, among other things, that control measures for ozone and ozone precursors will prevent pollution that contributes to nonattainment or interferes with maintenance in other states.³⁴ Under the Clean Air Act, states had three years from the time of EPA's 2015 revision of the ozone NAAQS to submit a revised SIP.³⁵

NMED submitted a SIP revision addressing the 2015 ozone NAAQS in November 2018, a month after the three-year deadline. However, NMED did not include a Good Neighbor provision with this submission. On December 5, 2019, EPA issued a finding that New Mexico failed to submit a complete SIP by not addressing the Good Neighbor provision of the Clean Air Act.³⁶ This action set a subsequent two-year deadline for the EPA to either promulgate a federal implementation plan (FIP) to address New Mexico's Good Neighbor obligations or to fully approve a SIP revision.³⁷

C. EPA 2018 Memo Regarding Clean Air Act Good Neighbor Provision

On March 27, 2018, more than three years ago, the EPA published a memorandum providing guidance for how states could analyze and determine their Good Neighbor obligations in relation to the 2015 ozone NAAQS.³⁸ While this 2018 Memo provided guidance to states, the EPA made clear it was not definitive or final for purposes of demonstrating compliance with the Clean Air Act's Good Neighbor provision. The EPA explained:

EPA's goal in providing this information is to assist states' efforts to develop good neighbor SIPs for the 2015 ozone NAAQS to address their interstate transport obligations. While the information in this memorandum and the associated air quality analysis data could be used to inform the development of these SIPs, the information is not a final determination regarding states' obligations under the good neighbor provision. Any such determination would be made through notice-and-comment rulemaking.³⁹

EPA's 2018 Memo highlights the four-step framework used to address the requirements of the Clean Air Act's Good Neighbor provision. These steps include:

1. Identify downwind air quality problems;
2. Identify upwind states that contribute enough to those downwind air quality problems to warrant further review and analysis;

³³ 80 Fed. Reg. 65,291 (Oct. 26, 2015).

³⁴ *Supra*. Note 30.

³⁵ 42 U.S.C. § 7410(a)(1).

³⁶ 84 Fed. Reg. 66,612 (Dec. 5, 2019).

³⁷ *Id.* at 66,613.

³⁸ U.S. EPA, "Information on the Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I)," Memorandum Published March 27, 2018, available online at https://www.epa.gov/sites/production/files/2018-03/documents/transport_memo_03_27_18_1.pdf.

³⁹ *Id.* at 2.

3. Identify the emissions reductions necessary (if any), considering cost and air quality factors, to prevent an identified upwind state from contributing significantly to those downwind air quality problems; and
4. Adopt permanent and enforceable measures needed to achieve those emissions reductions.⁴⁰

To assist states in meeting the Good Neighbor provision of the Clean Air Act, the EPA prepared modeling in 2017. This modeling is referenced in the agency's 2018 Memo. The 2017 modeling relied upon by the EPA utilized emissions data from 2011, 10 years ago, assessed measured ozone monitoring data for the years 2014-2016, and projected monitored ozone values to 2023.

IV. NMED's Proposed SIP Certification Does Not Demonstrate Compliance with the Clean Air Act

NMED's Good Neighbor SIP does not utilize the best representative data available to the agency. The agency relied upon the EPA's 2018 Memo to justify its proposed Certification.⁴¹ However, EPA's 2018 Memo relies on now outdated, unreliable, and inaccurate data and information. Notably, the modeling relied on emissions data from 2011. The modeling was also based on ozone monitoring data from the years 2014-2016. Further, the modeling assumed the implementation and effectiveness of regulations that have since been withdrawn. Most importantly, the EPA's 2018 Memo does not account for dramatic changes to emissions and air quality in New Mexico and neighbor states, which have largely resulted from the recent boom in oil and gas development.

A. Emissions Trends since EPA's Modeling

EPA's 2017 modeling relies upon the agency's 2011 National Emissions Inventory, which is now 10 years old. Since 2011, emissions of ozone precursors, primarily from the oil and gas sector, have increased and new inventories, which are readily available to NMED, suggest reliance on the 2011 data is unreasonable in 2021.

Since EPA completed its 2017 modeling, the agency has released both the 2014 National Emissions Inventory and 2017 National Emissions Inventory.⁴² Both the 2014 and 2017 updated

⁴⁰ *Id.* at 2-3.

⁴¹ Although NMED also relied upon guidance issued by EPA on August 31, 2018 and October 19, 2018, these guidance documents also relied on the modeling prepared by EPA in 2017 in support of the March 27, 2018 Memo.

⁴² The EPA's 2014 National Emissions Inventory can be queried at <https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data>. The 2017 National Emissions Inventory can be queried at <https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data>. EPA generally releases National Emissions Inventory data every three years. The agency is currently in the process of developing its 2020 emissions inventory. See <https://www.epa.gov/air-emissions-inventories/2020-national-emissions-inventory-nei-documentation>.

National Emissions Inventory data indicate that reliance on the 2011 data is no longer appropriate.

Although the updated National Emissions Inventory data confirms that anthropogenic emissions of NOx have declined in New Mexico, dropping from 204,031 tons in 2011 to 164,928 tons in 2017, emissions of VOCs have increased. According to the National Emissions Inventory data, VOCs increased from 217,433 tons in 2011 to 233,760 tons in 2017, a nearly 10% increase in emissions.

Further, there is every reason to conclude the National Emissions Inventory data is far from accurate with regards to its assessment of oil and gas industry emissions. The U.S. Bureau of Land Management, Western Regional Air Partnership, and others, working with the international consulting firm, Ramboll, have developed ozone precursor inventories for the oil and gas industry in the Permian Basin of southeast New Mexico, as well as the San Juan Basin in northwest New Mexico.⁴³ In recent reports assessing both 2014 emissions and projected 2028 emissions, the inventory shows that emissions from the oil and gas industry are much, much higher than reported by the National Emissions Inventory. While the 2011 National Emissions Inventory reported annual oil and gas industry emissions in New Mexico of 127,029 tons of VOCs and 42,196 tons of NOx, the Ramboll inventory projects that by 2028, emissions of VOCs will be 56% higher than reported in 2011 and emissions of NOx will be nearly 65% higher than reported in 2011.

Oil and gas NOx and VOC emissions in Permian and San Juan Basin reported in Ramboll inventories (in tons/year)

Basin⁴⁴	2014 NOx	2028 NOx	2014 VOCs	2028 VOCs
Permian	30,351	26,473	121,644	112,893
San Juan	44,730	43,136	64,429	86,188
TOTALS	75,081	69,609	186,073	199,081

The discrepancy between the National Emissions Inventory and more rigorous and focused inventories prepared by consultants of the Bureau of Land Management and Western Regional Air Partnership is not a surprise. In 2018, the Western Regional Air Partnership detailed and explained discrepancies between their inventory data and the National Emissions Inventory.⁴⁵ Among other things, the Western Regional Air Partnership found that the National

⁴³ See, Exhibit 9, Parikh, R., J. Grant, A. Bar-Ilan, *Development of Baseline 2014 Emissions from Oil and Gas Activity in Greater San Juan Basin and Permian Basin*, Final Report Prepared for Bureau of Land Management, Western States Air Resources Council, and Western Regional Air Partnership. (November 2018), available at https://www.wrapair2.org/pdf/2014_SanJuan_Permian_Baseyear_EI_Final_Report_10Nov2017.pdf; and Exhibit 10, Grant, J., R. Parikh, A. Bar-Ilan, *Future Year 2028 Emissions from Oil and Gas Activity in the Greater San Juan Basin and Permian Basin*, Final Report Prepared for Bureau of Land Management, Western States Air Resources Council, and Western Regional Air Partnership. (August 2018), available at https://www.wrapair2.org/pdf/SanJuan_Permian_Futureyear_EI_Report_21Aug2018.pdf.

⁴⁴ In the inventory, the Permian Basin was considered to include the Counties of Chaves, Eddy, Lea, and Roosevelt and the San Juan Basin was considered to include Cibola, McKinley, Rio Arriba, San Juan, Sandoval, and Valencia Counties.

⁴⁵ Exhibit 11, “Comparison of Oil and Gas Emission Estimates from the Greater San Juan Basin Inventory Project Emission Inventory to the 2014 National Emission Inventory (Version 2),” Memo Prepared June 25, 2018, available at https://www.wrapair2.org/pdf/GSJB_NEI2014v2_Compare_Memo_25Jun2018.pdf.

Emissions Inventory failed to include emissions from minor sources.⁴⁶ With thousands of minor sources emitting ozone precursors in New Mexico’s oil and gas industry alone, this omission significantly impacts the reliability of the National Emissions Inventory.

This updated emissions inventory data indicates that EPA’s reliance on 2011 inventory data is no longer reasonable. Given this, it is not reasonable for NMED to rely on the agency’s modeling in support of its Certification.

B. Trends in Ozone Violations since EPA’s Modeling

NMED’s identification of downwind air quality problems in its Good Neighbor Certification is also deficient because the EPA’s analysis did not rely on updated air quality data.

As discussed above, NMED’s SIP Certification relied on EPA’s 2018 Memo for its analysis of its Good Neighbor obligations, and this EPA memorandum identified areas with current air quality violations based on 2014-2016 monitoring data. This is problematic because monitoring data between 2014-2016 is not representative of air quality in many oil and gas producing states that have experienced and are currently experiencing a boom in the industry. For example, as recently as 2016, New Mexico’s Lea and Eddy Counties had not reported a single exceedance of the 2015 ozone air quality standard. That changed in 2017, when both counties began reporting exceedances. By 2019, both counties had accumulated so many ozone exceedances that they had fallen into violation of the 2015 ozone standard. More recent ozone monitoring data from New Mexico’s neighbors shows similar trends.

The table below show how ozone levels in New Mexico have increased since the timeframe 2014-2016, indicating that EPA’s prior assumptions regarding the state of air quality are no longer up-to-date.⁴⁷ The table presents design value data for New Mexico ozone monitors for the years 2014-2016, and for every three years since to 2017-2019.⁴⁸ A design value is EPA’s method for determining whether or not an air quality standard has been violated at a particular monitor and is calculated for ozone by taking the three-year average of the fourth highest 8-hour ozone reading.⁴⁹ The data shows that since the three year period of 2014-2016, ozone levels have increased across the board in New Mexico. The data also shows that while only one monitoring site was violating the 2015 ozone NAAQS in 2014-2016, six sites are now violating based on 2017-2019 data. These ozone violations underscore that New Mexico’s air quality impacts to other states is likely more severe and warranting of closer, updated scrutiny.

New Mexico Ozone Monitor Design Value Data, 2014-2021 (in parts per billion)

County	Monitor ID	2014-2016	2015-2017	2016-2018	2017-2019
Bernalillo	350010032	65	65	66	67
Bernalillo	350011012	64	67	69	71

⁴⁶ *Id.* at 3.

⁴⁷ This table was prepared using monitoring data queried via EPA’s AirData Monitor Values Report website, <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report>.

⁴⁸ 2018-2020 design value data is also now available, however, we acknowledge this data likely would not have been available in time to inform NMED’s current proposed Certification.

⁴⁹ 40 C.F.R. § 50.19.

Doña Ana	350130008	66	68	68	70
Doña Ana	350130020	66	68	71	73
Doña Ana	350130021	72	72	74	77
Doña Ana	350130022	68	72	74	76
Doña Ana	350130023	65	66	67	70
Eddy	350151005	67	68	74	79
Lea	350250008	66	67	70	71
Rio Arriba	350390026	64	65	67	67
Sandoval	350431001	64	65	68	68
San Juan	350450009	62	64	69	68
San Juan	350450018	66	68	70	69
San Juan	350451005	62	64	69	69
Santa Fe	350490021	63	63	66	66
Valencia	350610008	64	65	67	68

Similarly, air quality in neighboring states has also diminished since the 2014-2016 timeframe. In particular, neighboring El Paso, Texas has regularly exceeded the ozone NAAQS and two monitors in the area are now in nonattainment with the 2015 ozone NAAQS. This contrasts starkly with the state of air quality in 2014-2016, where zero monitors were in nonattainment of the 2015 ozone NAAQS.

8-Hour Ozone Design Values (in parts per billion) at Key El Paso, Texas Monitors, Based on 2017-2019 Monitoring Data⁵⁰

Monitor Location	State	Monitor ID	2019 4th Max.	2018 4th Max.	2017 4th Max.	3 Year Average Design Value
El Paso, Ivanhoe Fire Station	TX	481410029	70	74	63	69
El Paso, Rim Road	TX	481410037	75	76	74	75
El Paso, Yvette Drive	TX	481410058	72	77	75	75

While El Paso is not designated a nonattainment area, the reference to nonattainment under Section 110(a)(2)(D)(i)(I) is not limited to “areas” designated as nonattainment, but refers to air quality. The EPA has explained, “it is clear that the reference in section 110(a)(2)(D)(i)(I) to ‘nonattainment’ refers to air quality, not designation status.”⁵¹

The ozone air quality data above shows that air quality in many parts of New Mexico and its surrounding neighbors has been degrading since the 2014-2016 period. In fact, the air quality at each of the monitors identified above has either further degraded or remained near the same since the 2014-2016 time period, rather than improved as EPA’s modeling predicted. These trends cast doubt on the current accuracy and reliability of EPA’s emissions and air quality projections provided in the 2018 Memo. Without the best representative data, NMED cannot

⁵⁰ Data queried from EPA’s AirData website, <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report>.

⁵¹ 63 Fed. Reg. 57,356, 57,372 (October 27, 1998).

ensure it properly identified downwind air quality problems and demonstrated compliance with the Clean Air Act's Good Neighbor provision.

Adding to the concern over the accuracy and reliability of EPA's 2018 Memo is that the underlying modeling assessed contributions of ozone only at monitoring sites and did not analyze contributions to unmonitored areas. This is problematic in relation to New Mexico. For example, there are zero ozone monitors in the Permian Basin of West Texas.⁵² However, with high ozone levels reported in Hobbs and Carlsbad in the New Mexico portion of the Permian Basin, literally on the doorstep of the Permian Basin of west Texas, it seems inconceivable that there would not also be high ozone in the region.⁵³ Unfortunately, due to a lack of monitors, EPA did not assess whether emissions from New Mexico may be contributing significantly to air quality that may be in nonattainment in West Texas and did not assess whether emissions from New Mexico may be interfering with maintenance of air quality in West Texas. This raises further questions over whether it was reasonable for NMED to rely solely on the EPA's 2018 Memo to justify its Good Neighbor SIP Certification.

C. Emissions Control Revisions since EPA's Modeling

Not only did NMED's reliance on outdated data lead it to underestimate future emissions growth and air quality degradation, the reliance on outdated modeling led it to overestimate future emissions reductions based on emissions controls that were later revoked or revised.

As discussed earlier, EPA's 2018 Memo presented projected 2023 future year emissions and air quality based on emissions and air quality available at that time it conducted the modeling, including a 2011-based modeling platform, 2011 emissions inventory, and 2014-2016 air quality data. Similarly, EPA projected 2023 future year emissions and air quality based on the emissions controls that were final and in effect at the time of modeling, which included a series of new emissions controls that had been promulgated under the Obama Administration. Notable and most significant among the controls for ozone precursor emissions were the 2012 and 2016 New Source Performance Standards (NSPS) for the Oil and Gas Sector and the 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards (CAFE Standards).⁵⁴

Unfortunately, these rules were ultimately rescinded and drastically rolled back by the Trump administration. The EPA's 2012 and 2016 NSPS were revised in September 2020.⁵⁵ The CAFE Standards were rolled back in April 2020.⁵⁶

As a result, NMED's reliance on EPA's 2018 Memo assumes emissions reductions from controls that do not currently exist. Because these emissions controls are no longer effective, EPA's modeling likely underestimates 2023 future year emissions and air quality violations for

⁵² Aside from the New Mexico-based monitors in Hobbs and Carlsbad, the nearest ozone monitors to the Permian Basin of West Texas are located in El Paso and in Palo Duro State Park near Amarillo in the Texas Panhandle.

⁵³ The monitor in Hobbs is located less than five miles from the Texas border.

⁵⁴ The EPA indicates it relied on these rules in its 2017 Technical Support Document for its 2017 modeling. *See* Exhibit 5 at 93 and 97.

⁵⁵ *See* 85 Fed. Reg. 57,018 (Sept. 14, 2020) and 85 Fed. Reg. 57,398 (Sept. 15, 2020).

⁵⁶ *See* 85 Fed. Reg. 24,174 (April 30, 2020).

purposes of determining Good Neighbor obligations. NMED itself has confirmed the significant impact these emissions controls were expected to have within New Mexico and nationally. For example, in 2018 NMED used the 2012 and 2016 NSPS for the Oil and Gas Sector as evidence New Mexico emissions of ozone precursors would not harm downwind states and that New Mexico air pollution control measures complied with its Good Neighbor obligations.⁵⁷

More recently, the State of New Mexico joined a legal petition with a group of other states and cities, challenging the Trump Administration's decision to revise the 2012 and 2016 NSPS for the Oil and Gas Sector.⁵⁸ The petition was submitted in September 2020, and as part of that litigation, NMED explained that the revisions to these oil and gas regulations would undermine New Mexico's public health and environmental investment to reduce VOC emissions that contribute to unhealthy ozone levels. NMED emphasized that New Mexico relied on the NSPS regulations to control VOC emissions from small oil and gas sources to mitigate ozone impacts in New Mexico and in neighboring states.

V. Conclusion

Emissions controls that were expected to significantly reduce ozone precursors nationally were eliminated or curtailed since EPA conducted the modeling it presented in its 2018 Memo. Likewise, violations of the ozone air quality standard are being measured with greater frequency in many parts of New Mexico and in its neighboring states than just a few years ago. These violations are, at least in part, due to increasing emissions of ozone precursors coming from a boom in oil and gas development, which has accelerated in just the past few years as well. Modeling and projecting future emissions and air quality is by its nature an imperfect science, but the data and modeling NMED relied on to determine its Good Neighbor obligations for the 2015 ozone air quality standard does not demonstrate that the Clean Air Act's Good Neighbor provision has been met.

More importantly, NMED's reliance on outdated data does a disservice to the public and environmental health of our downwind neighbors and sets a precedent that may ultimately harm New Mexico in the long-run. NMED has indicated that modeling studies and preliminary back-trajectory analyses suggest that interstate transport of ozone from the Permian Basin in Texas contributes to high ozone concentrations in southern and southeastern New Mexico. It is likely that New Mexico, Texas, and other surrounding states will need to work together in good faith to address ozone pollution. But NMED's use of unrepresentative data for this Good Neighbor SIP would be one step down a slippery slope that may lead other states to implement similar strategies for avoiding responsibility for downwind air pollution, jeopardizing the air quality and public health of New Mexicans and their neighbors.

⁵⁷ See *In the Matter of Proposed Approval of New Mexico's Infrastructure State Implementation Plan for Ozone National Ambient Air Quality Standard*, "Petition for Approval of New Mexico's Infrastructure State Implementation Plan Certification," No. EIB 18-06, available at <https://www.env.nm.gov/wp-content/uploads/sites/8/2018/05/Petition-for-Approval-of-New-Mexicos-Infrastructure-State-Implementation-Plan-Certification.pdf>.

⁵⁸ Exhibit 8, Pet'r's Emergency Mot. for Stay Pending Review; Mot. for Expedited Review at 79-84, *California v. Wheeler*, No. 20-1357 (Sept. 18, 2020).